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Southern Medical Journal

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Southern Medical Association, Thirty-Fourth Annual Meeting, Louisville, November 12-15, 1940

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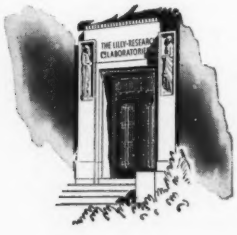

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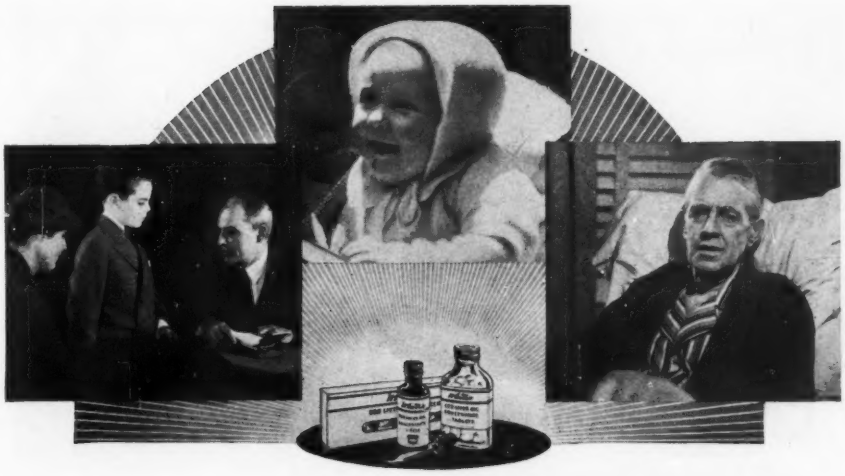

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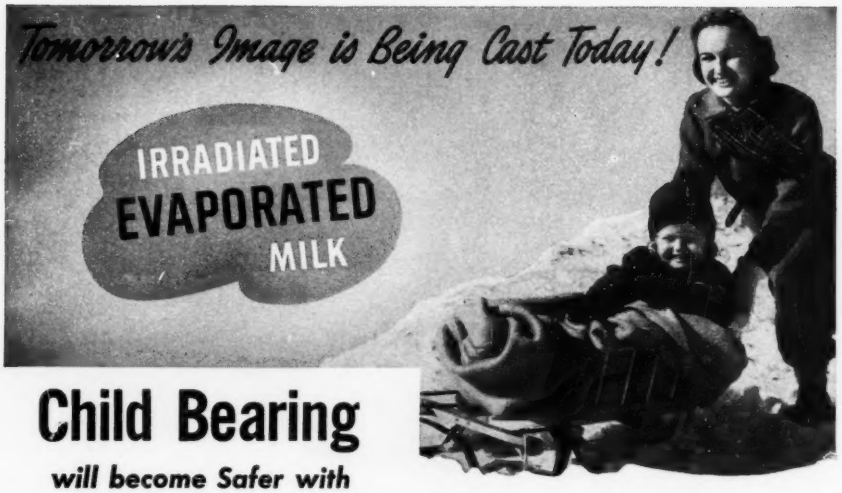

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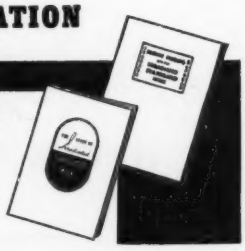

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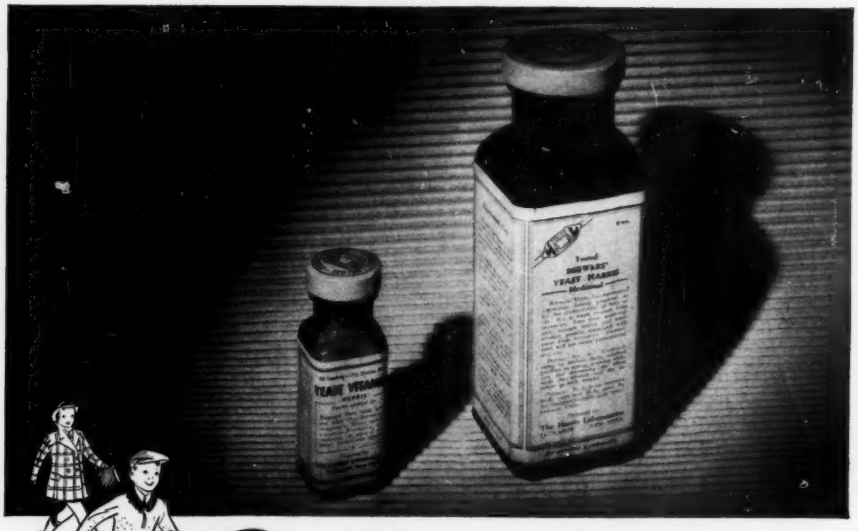

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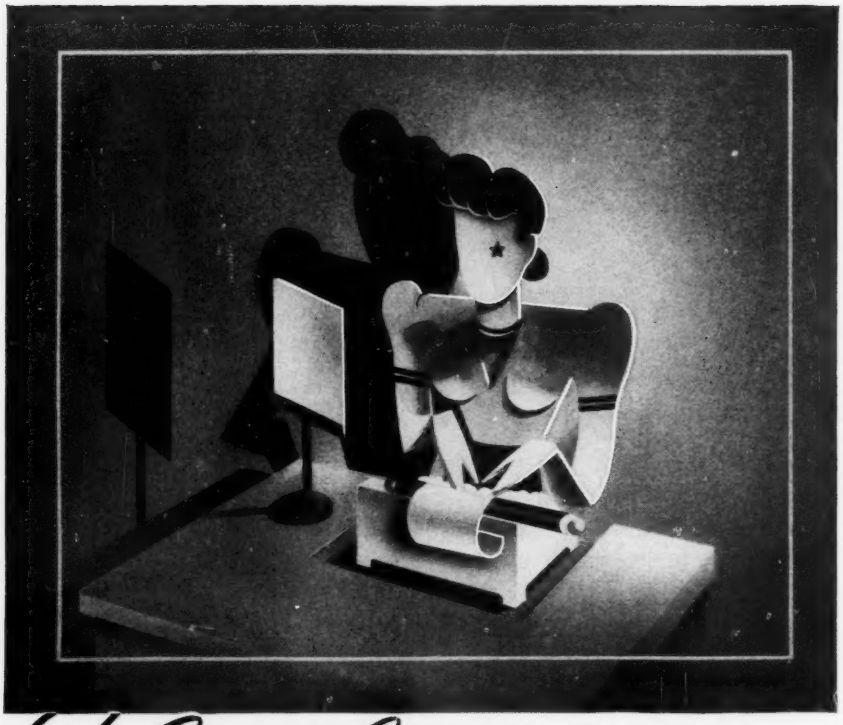

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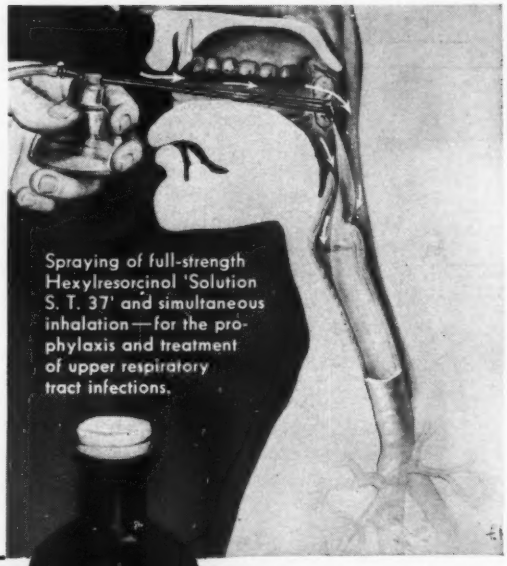
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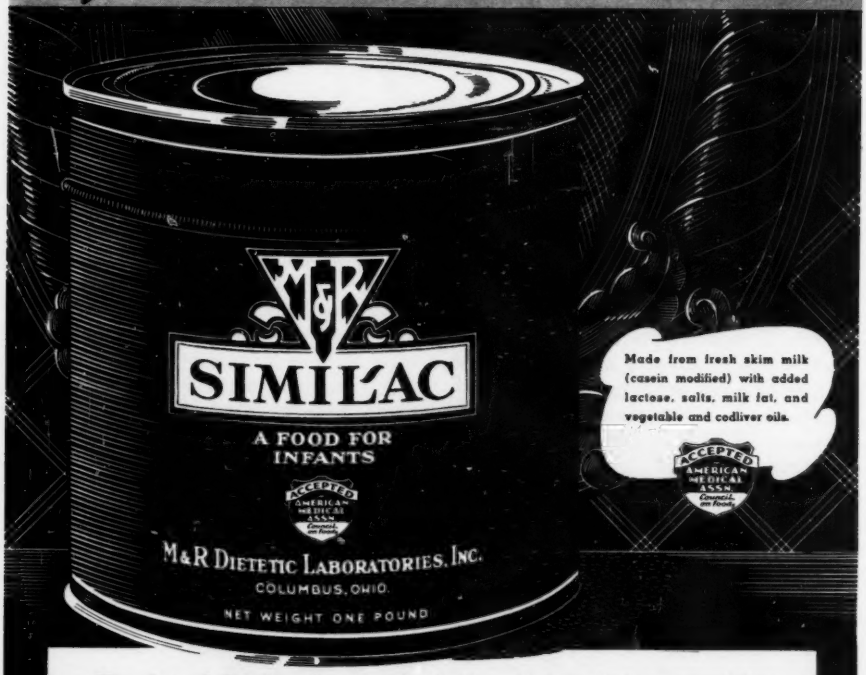
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[1]Dunn, C. W., *Delaware State Medical Journal*, 11:76-84.
[2]Eidelsberg, J., *Medical Clinics of North America*, 1537-1544, Sept. 1938.

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IN A SERIES OF OVER A THOUSAND CASES of whooping cough *treated* with this new antigen, JOSLIN and CHRISTENSEN* found the duration of the disease to be reduced two weeks as compared with an untreated control group. Likewise, the incidence of complications in the treated group was less than 1% as contrasted with nearly 20% in the controls.

In a series of several hundred cases in which the antigen was used *as a prophylactic*, a protection rate of over 90% was obtained in the children exposed one to several days. About three-fourths of the children immunized during the incubation period escaped the disease.

"Pertussis Antigen (Detoxified) *Lederle*" usually helps in the treatment of whooping cough when administered early:

- by reducing the incidence of complications;
- by shortening the duration of the attack;
- furthermore, it appears to offer a considerable degree of protection in the prophylaxis of pertussis, even in exposed cases.

DOSAGE:

For curative use: 3 to 5 subcutaneous injections, 1.5 to 2 cc. every other day.

For immunization of direct contacts: 3 subcutaneous injections, 1.5 to 2 cc. every two or three days.

For general prophylactic use—children not directly exposed: 3 subcutaneous injections, 2 cc. each at weekly intervals.

PACKAGES:

3 vials—2 cc. each
1 vial—20 cc.

*Unpublished data—JOSLIN, C. L. and CHRISTENSEN, T. A.

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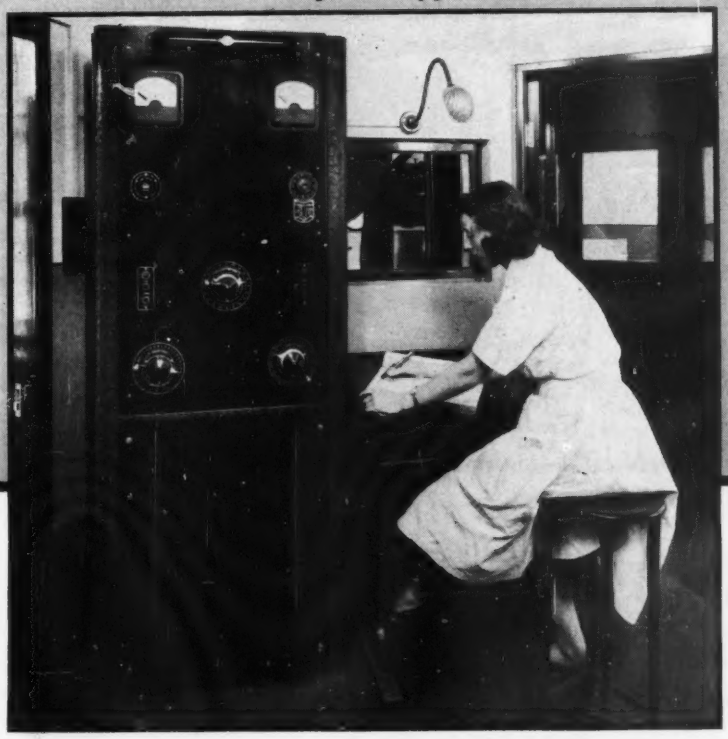

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Each Hematinic Plastule Plain provides five grains of *ferrous* iron plus the vitamin B complex of concentrated yeast, which is available for immediate conversion into hemoglobin.

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PLAIN *(Sparkling)* KNOX GELATINE (U.S.P.) was used in this study.

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* **"PEPTIC ULCER**—The Effect of High Protein Diet on the Behavior of the Disease" by Windwer and Matzner, Am. Jl. Dig. Dis. 5:743, 1939.

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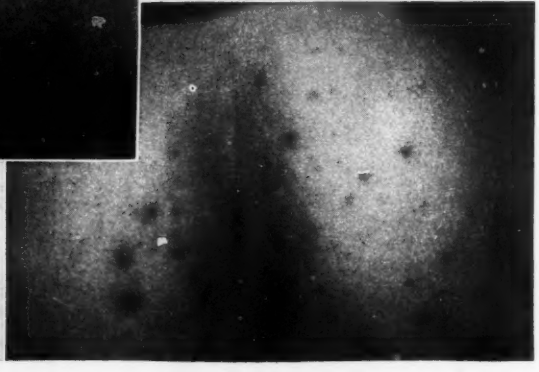
STUDIES IN THE AVITAMINOSES

This page is the first of a series on vitamin deficiencies presented by the research division of The Upjohn Company, not merely because of the profession's widespread interest in the subject, but also because of the service which these reproductions might render toward earlier recognition of vitamin deficiency states.

The Cutaneous Manifestations of Vitamin A Deficiency

Goosepimple-like papules, occasionally seen in vitamin A deficiency, occur most frequently on thighs and arms, but may appear anywhere on the skin. More common than the acneform eruption.



Acneform papules of vitamin A deficiency. Pustulation is rare, but crusts and scales may be observed. Dryness of involved skin precedes both types of lesions.

Although the classic manifestations of vitamin A deficiency are familiar to every physician, many of these represent late stages of deprivation. In some cases, cutaneous changes may provide an opportunity for earlier recognition. These cutaneous changes, when fully developed, consist of two distinct types of eruptions —a goosepimple-like papule and an acneform lesion in which pustulation rarely occurs. The absence of perspiration is due to atrophy of the sweat glands and keratinizing metaplasia of the ducts. The papular cornified lesions are due to the keratinization of the sebaceous glands and hair follicles.

In some subjects, accentuation in pigmentation due to an increase in melanin and melanin-building pigments is observed. Unlike the ocular manifestations of vitamin A deficiency, the skin lesions respond slowly to specific therapy, requiring from 4 to 12 weeks for their eradication.

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"Conservatism must be the rule in projecting products for use in human disease. The recovery and life of the patient, the professional reputation of the physician are at stake."

There is also a policy which physicians will note. Reports, clinical data and medical research are not followed with a publicity service for public distribution. The years which one in the management spent in food and drug control and public health broadly emphasize that self treatment of disease is dangerous; that accurate diagnosis should and can be had; that one disorder is generally accompanied with other disorders; that it is all a job for medical skill.

• AN EXTENSIVE STUDY

For several years studies have been made in England with Vegex (Marmite) and milk in nutritional therapy during pregnancy. The summary report given in the British Medical Journal, Jan. 22, 1938, page 191, shows that a total of over 10,000 expectant mothers received Vegex (Marmite) with milk and milk foods, and a total of over 18,000, in the same area, did not receive these food additions.

• THE RESULTS NOTED

Among the women having Vegex (Marmite) and the milk and milk foods—the exact number was 10,384—the puerperal death rate from sepsis was only 0.09 per 1,000, that is, only one death. Among the group of women—the exact number was 18,854—not receiving these food supplements, the death rate was 2.91 per 1,000.

• THE POSTULATED REASON

The workers postulate that:

"the vitamin B complex, which was a neuromuscular stimulant, and possibly when this preparation was taken in the last months of pregnancy it enabled the woman to deliver herself in certain cases when otherwise she would have had to undergo operative intervention. The vitamin B complex also had a special action on the skin and mucous membrane, and it might be that the action on the mucous membrane of the uterine passages diminished the tendency to puerperal sepsis."

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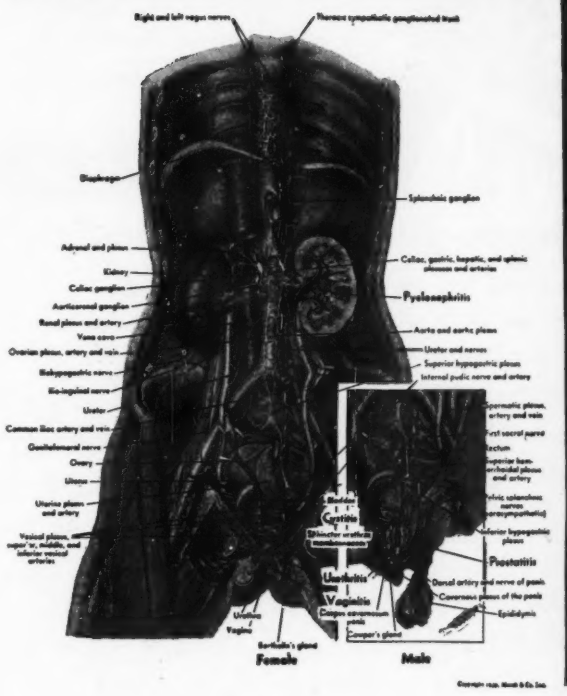

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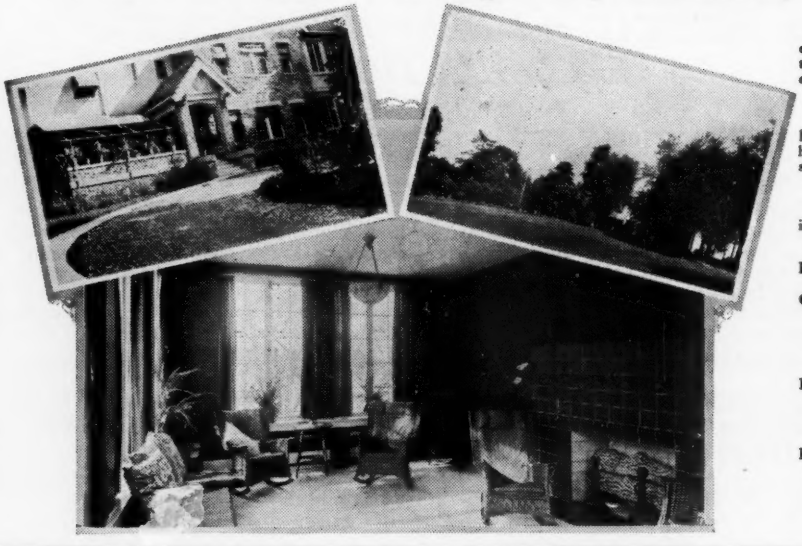

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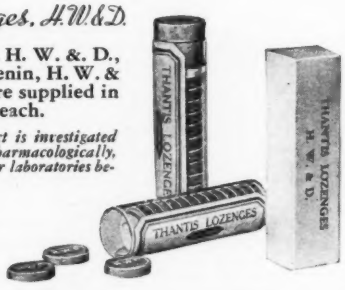

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MEDICINE AS A PROFESSION: SOME OUTSTANDING OBLIGATIONS*

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For centuries medicine has been considered one of the three great learned professions. Recently, however, this professional status has been called in question by certain politically minded leftists who would consider physicians merely tradesmen, and their great national organization "a conspiracy in restraint of trade." When we find ourselves and our position thus challenged, it behooves us to take inventory and to determine just what our actual status is.

In the discussion of any topic it is often wise to set up our objective by defining the key word of the topic, which in our discourse tonight is "profession." What is a profession? This key word is very difficult of exact definition, but as the term is understood by educated Americans of our day, we may define a profession as an organized vocation founded upon specialized educational training, the purpose of which is to supply disinterested counsel and service to others for a direct and definite compensation wholly apart from the expectation of other business gain, the individual members of which calling are licensed by the state after a period of formal academic education and scientific training in an approved technical school.

What are the characteristics of a profession? What standards are to be met by a calling before it attains the dignity of a profession? In street parlance, what are the yardsticks? Here again we find exact definition difficult, and proper criteria hard to delineate. While opinions may differ as to details, probably most students of the subject would agree that a profession—

(1) Involves individual personal activities, essentially intellectual and advisory, accompanied by large individual responsibility, and based upon ability and skill which are mental and intellectual rather than that type of skill and dexterity developed by a repetition of manual processes.

(2) Commands a body of specialized knowledge based upon a liberal education acquired prior to technical training, and a definite period of formal technical education in an accredited professional school.

(3) Demands continuous in-service learning and affords constantly to its membership the means of postgraduate education within its own realm.

(4) Offers a personal service either to the public or to a considerable segment of the public.

(5) Involves a public declaration by the individual of the service offered, and sanction by the state in the form of a certificate of licensure.

(6) Demands a continuous turning to the laboratory and seminar for new facts, philosophy and method, providing constant research and continuing education for its membership, and the free imparting to its membership of scientific discovery and knowledge gained.

(7) Affords a life career and permanent membership.

(8) Is self-regulatory and essentially free in that it sets up its own standards, maintains its own code of ethics, and polices its own membership.

(9) Is idealistic and altruistic rather than selfish and acquisitive in that it exalts service above personal gain, and affords intrinsic inspiration to its membership.

(10) Forms a definite uplifting segment of the population which unites with other constructive uplifting segments in an effort to build a finer citizenry and to mould the populace into a better and more harmonious body politic.

*President's Address, Southern Medical Association, Thirty-Third Annual Meeting, Memphis, Tennessee, November 21-24, 1939.

(11) Has a strong, closely knit professional organization which concerns itself not only with the welfare and improvement of its own individual members, but within its own realm with the welfare of all mankind, and also strives to advance its own special field of endeavor to a higher ethical plane and to increase continually its volume of factual knowledge.

Assuming that our definition and criteria are correct, or essentially so, it follows that a profession has incumbent upon it a three-fold responsibility: (1) to its own individual members; (2) to itself as a profession; and (3) to the public which it professes to serve. To its individual constituent members, a profession owes the duty of organizing them; of making available to them at all times that continuing education so essential to professional advancement; and inspiring them to continual improvement in their work and to betterment of the service they offer. To itself as a profession the obligation is constant research, the accumulation and classification of discoveries and factual data incident to its own realm; and to strive continually for a better and more inspiring self. In other words, a profession must furnish intrinsic inspiration to its membership; it must have a soul of its own. All these are in addition secondary obligations to the public, to which the primary duty is, of course, prompt, faithful and efficient service–the pre-eminent obligation of any profession.

Does medicine exemplify the foregoing definition? Does it, as a profession, measure up to the criteria outlined and fulfill the duties enumerated? Before this audience such questions are superfluous; the queries answer themselves. Our calling does fulfill the definition and when measured by the standards cited scores a high rating in each instance. Unquestionably medicine is a profession, certain widely publicized statements from politicians sojourning on the Potomac to the contrary notwithstanding. In many respects, our vocation is the most complete exemplification of the word profession; it is the model profession, so to speak.

Assuming that the responsibilities of the professions are essentially as we have enumerated them, what are the obligations challenging the medical profession today? We cannot discuss them all for they are manifold. But some are so outstanding as to demand frank discussion and prompt action by the profession at large.

Probably the presenting challenge now facing medicine is to enunciate a sensible and practical health program for our country and to work unceasingly for its adoption. True, the general principles upon which such a program must rest have in the past often been enumerated by our organized profession, but the time is now ripe for the presentation of a definite concrete blueprint which must be succinct, constructive, and forward looking, and it must have the earnest support of every individual physician. Such a program must provide time for its development; it must be evolutionary, not revolutionary. The key point in such a program should be the establishment of a Federal Department of Health the secretary of which must be a doctor of medicine with a seat in the President's cabinet. When a building is to be erected, architects make the blueprints. If a canal is to be dug, engineers direct the work. When a program of national defense is to be decided upon, officers of the army and navy draw it up. If national finance is under consideration, professional financiers are called into consultation. Why, then, should not a national health program be presented by the medical profession, the only segment of our population qualified for such a task by education and training?

The medical, health and allied expenditures of the Federal Government exclusive of the medical care of the army and navy are disbursed through the legislative branch, nine regular departments, thirteen independent establishments and the District of Columbia, twenty-four separate channels. The bulk of these activities, however, are in the Public Health Service, the Veterans' Administration, and the Departments of Agriculture, Interior and Labor. The total discernible amount listed in the budget for the civil health and allied activities for the fiscal year 1938 was actually $207,229,746 and the corresponding estimate for 1939 was $142,597,624. Solely as a matter of efficiency and economy, such a wide diversification of the health activities certainly demands unification into one department, and the enormous sum involved exceeding the entire combined budgets of the Departments of Commerce, Justice, Labor and State, in the vernacular of the street, rates a separate governmental department which should unify and correlate all the civil medical, health and hospital activities of the Federal Government. Such a department should plan, evolve and administer a suitable health program for the entire United States and should have constantly available for aid and assistance an ad-

visory committee from the American Medical Association, the only organization of physicians representing the entire profession and all segments of medical practice and opinion.

Another feature which should be incorporated in a national health plan is the extension of the Public Health Service until the entire area of each of the states is under full time trained health officers. This should be gradually accomplished and no time limit should be set because of the difficulty of securing and training suitable personnel. Due recognition should be given to the principle that the function of the health officer is educational, administrative, exercising police power and preventive, and that he should not encroach upon the field of curative medicine. Proper provision should be made for the maintenance of the integrity of the present system of the private practice of curative medicine without any political or lay domination and providing for the reasonably free choice of physician and hospital. Indeed it is this system which has developed the best medical practice the world has ever seen and the best general health this country has ever enjoyed.

No plan for the physical welfare of our citizenship would be complete without satisfactory provision for combating major disease problems which affect either the entire country or large sections of it, notably the mental diseases, tuberculosis, syphilis, gonorrhea, cancer, heart disease and malaria. Of these the first two listed are outstanding, especially psychiatry. The mental hospitals of almost all of the states are staggering under the burdens of patient overload, cramped quarters, and numerically insufficient personnel. As a profession, we who know these needs, should urge upon government the absolute necessity for proper quarters, adequate space and sufficient professional personnel to make our state mental hospitals really curative of physical and mental ills rather than custodial institutions. Whatever health program is adopted should contain ample provision for the care and treatment of our insane, and what is equally important, if not more so, the aggressive waging of competent mental hygiene campaigns in all the states; for only by proper preventive measures can we hope to lessen our present burdensome load of mental disease, now definitely on the increase. Tuberculosis constitutes a lesser problem than does psychiatry, but nevertheless a very real one, especially as to institutional bedspace for all types of the disease and particularly as to care of the hopeless open case. Syphilis, gonorrhea and malaria are gradually coming under control and the public health aspects of heart disease and cancer are essentially educational.

Any general health plan should contain provision for an educational program as to the value of health, health measures and health habits and the means of utilization of medical and health services now available. This should cover the general population and should be especially intensive in schools and colleges. The student health services should be essentially health education services rather than curative in nature.

Any health legislation enacted by the Congress should recognize the fact that such deficiencies in medical care as do now exist are essentially economic and can be met by increased expenditure of funds, and that no new federal governmental machinery is necessary for the extension of the Public Health Service, the Child and Maternal Health Services, and the Crippled Children's Service inasmuch as these agencies are functioning satisfactorily already and all that is needed is an increased appropriation. Sufficient funds should be made available to care properly for the indigent, using existing general hospital facilities and the private practitioner wherever possible. As to the origin of funds, the principle of grants-in-aid is apparently so well established in this country that it cannot be eradicated, now approaching in revenue volume to the states the amounts raised by either income, gasoline or consumers' sales taxes. However, we doubt the wisdom of grants-in-aid as governmental policy, for reduced to its lowest terms such a procedure amounts to a monetary bribe given by the general government to a state for the purpose of inducing the state to adopt a policy which otherwise it would not follow; and is analogous to the placing of the seductive sugar teat in the mouth of a mewling child. Regardless of the source of funds, recognition of the principle of demonstrated need should be rigidly adhered to and due regard for a balanced budget should be had. Matching of funds would seem to be of doubtful wisdom, for the health and fiscal needs of the various states are far from similar. An appropriation to a federal agency to which an individual state in need of funds for medical and health purposes could apply, demonstrate its need, and secure the necessary money, with or without matching according to the terms of the appropriation, certainly would meet the need. An agency analogous to the Reconstruction Finance Corpora-

tion would suffice, or the appropriated funds might be allocated by the U. S. Public Health Service.

A final principle which should be recognized in any national health legislation is the fact the medical profession is the only segment of our population which has the training and experience necessary to advise upon and direct the health and medical activities of the country, and will in the final analysis be the group called upon to furnish these services, and should therefore be consulted in the planning and development of all programs involving health and medical care.

The second great challenge to medicine today is educational. While we are not educators in the schoolmaster sense, we are, whether we realize it or not, teachers every day of our lives. And this is as it should be. Not only is the challenge to teach individual health to our patient clientele, but to enlighten the entire population as to medicine generally, the history, accomplishments and aims of the profession, remembering always that the true viewpoint of medicine is that of the public, the common good, and the gradual building of a healthier and better citizenship. In such an educational campaign, every available means should be used, especially civic clubs, parent-teacher associations, women's clubs, the forum generally, the cinema, the radio and especially the press. One of the really worth-while commodities used in modern life is printer's ink, and I for one would urge not only the value but the necessity of the dignified paid advertisement in the daily newspaper featuring the aims and accomplishments of medicine and its value to the public.

A second outstanding educational challenge to our profession is the premedical student. While the actual curricular pabulum furnished, the "book learnin'" portion, if we may use pioneer lingo, is probably fairly satisfactory, premedical education is a thing apart from the profession. Some years back a very intelligent and observant youth, after six weeks as a medical freshman, wrote: "The premedical student is the poorest chaperoned American." Why could not premedicine be tied in more closely with the practicing profession? The preceptorial system formerly in vogue in medical education had much merit, and might well be revived and intensified in our premedical schools. If each of these students had as a professional adviser an active practicing physician to whom he could go for advice and guidance, his thinking would be much less chaotic as to curricular work; and the choice of a medical school, such choice as he has, and his educational path would be made infinitely easier than is usually the case. Possibly a step forward would be the appointment of carefully selected premedical advisory committees by the local medical societies in our college communities, whose duty would be not only advisory but the giving of a sort of "what-a-premedical-student-ought-to-know" course, which, while probably extracurricular, could be made of untold practical value to the individuals from whom our ranks are to be recruited. Moreover, the designation by medical schools of premedical advisers from among their alumni in the college communities where premedical courses are given would probably be worth-while.

While medical education in the United States is on a higher plane than ever before, in fact the best the world has ever known, one phase of it demands the attention of the practicing profession. The worthy medical student whose scholastic standing is satisfactory, but whose financial status is precarious, should have access to a loan fund which would tide him over the financial shoals. The scholastic task of the medical student is so burdensome that outside work for the sake of income cannot be considered. Should not the state medical societies develop loan funds to aid worthy recruits in the ranks of medicine?

The final feature of our educational challenge is postgraduate instruction for the physician in actual practice, the man on the firing line, the in-service learning of medicine. In a consideration of this phase of our educational problem, the first basal fact to remember is that education is a continuous and a continuing process, and extends over the entire lifetime of the individual. In a manner the acquisition of a diploma closes the preface rather than writes finis to the entire educational volume. A second basal fact, just as important as the first, is that medicine, since the dawn of history dynamic, is more so today than ever before, and as a consequence the sum total of medical knowledge is increasing more rapidly now than at any time in the past, and in all probability the speed of accumulation of such knowledge will be definitely accelerated in the future. A third basic factor which cannot be ignored is the distribution of the present available supply of postgraduate instruction. As we consider the situation we cannot help but realize that the supply is distributed best where it is needed least, and, mathematically speaking, the distribution of

postgraduate medical education varies inversely as its need. In other words, there is a partly submerged segment of the practicing profession to which in-service education and scientific progress filter down rather slowly and considerably dilute. With this feature especially, the public is seriously concerned and, unless the profession develops a suitable technic to distribute postgraduate instruction in medical progress promptly to all its members, we fear that the state will in self-defense propose limited licensure with a stated amount of postgraduate work as a prerequisite to renewal of license. Such an eventuality we dread to contemplate. Certainly the profession can evolve a satisfactory voluntary postgraduate technic.

Charity practice is an outstanding medical obligation today, as is its corollary, fees they can afford to the low income group. Even though the bulk of non-pay service in the past decade of depression has grown to enormous proportions presenting a back-breaking professional burden, we as physicians must neither shirk nor falter. Cain's question to Jehovah must be answered in the affirmative. When charity practice is but a memory, and the tempering of the financial wind to the shorn lambs constituting the income producing poor is no longer in vogue, something of the finer will have gone out of the physician's life. His soul will be debased and will miss the exaltation which comes with service for the sake of service rather than for the sake of shekels.

Standards requisite for licensure should not be delegated to the licensing boards entirely, but should have the active attention of the profession generally. While such standards are legally set, they reflect only the professional opinion of what should obtain. The profession alone has the requisite knowledge and training to determine suitable standards for licensure, and the variation of the requirements in different states would suggest that not sufficient thought has been given to uniformity of licensure throughout the country. Only about half the states require a year's rotating internship for certification. Certainly this should be a *sine qua non* America over. At least one state yet provides for interpreters to aid in the examination of foreign-born applicants for license. In Heaven's name, how can a physician render adequate service to Americans if he cannot use the English language well enough to make himself understood by the examining board, to say nothing of the rank and file whom he will treat? Another pressing question confronting licensing boards is the matter of citizenship. One-fourth of the states now require full citizenship by statutory enactment and fifteen others by examining board regulation. Four and the District of Columbia do not even require first papers. The state imposes upon physicians numerous duties relating to the public welfare. Communicable diseases must be reported. Birth and death certificates must be filled in. Certificates often must be furnished courts by attending physicians as to the physical and mental condition of witnesses and accused persons. The mental capacity of testators is often called into question. Civil damages for personal injury usually depend upon the expert testimony of the attending physician. Certification of freedom from disease is, in many states, required for the issuance of marriage licenses. Finally the physician may at any time be called upon to fulfill the very important duties of the ancient and honorable office of coroner. Certainly in the performance of several of these functions the physician is to all intents and purposes "an officer of the court," which, as such, demands full citizenship. It is true that under the Federal Constitution, a state may not deny an alien the right to follow a "common occupation" under the same conditions that it imposes upon citizens. The practice of medicine, however, is not a "common occupation," but a learned profession the members of which may often be charged with duties upon which the public welfare and the administration of justice depend. Unquestionably full citizenship should be a requisite for medical licensure throughout the United States.

Still another weighty obligation facing our membership today is community service. For too many decades it has been the custom of the physician to bury himself in his professional practice. While success depends in large measure upon attention to work, the medical profession should "come out of its professional shell." Our community attitude should change from that of the introvert to that of the extrovert, and we should engage actively in the community betterment programs of the other constructive uplifting segments of the population and endeavor to mould such activities along proper constructive lines.

Does medicine fulfill its mission as a profession? Can it successfully solve the problems

it faces today? What are some of its achievements? Artificial ice and air conditioning hark back to John Gorrie's efforts to lower the temperature of the air around malarial patients, a therapeutic experiment. The purity of our water supply, now taken as a matter of course, is a product of medical experimentation and endeavor. The tuberculosis death rate has been cut more than seventy-five per cent since the turn of the century. The average lifespan of our generation is more than ten years longer than that of our fathers. Bubonic plague and yellow jack have been banished. Smallpox, diphtheria, typhoid and dysentery are rarities. Malaria, pernicious anemia, pneumonia, and diabetes are under control. Less than a century ago the building of the Panama Railroad cost a life for every tie laid down, but today the Canal Zone has a better death rate than many of the large cities of the United States. And all these are triumphs of medical progress. American medical care, medical education and medical science are admittedly the best the world has ever known. The morbidity and mortality rates in the United States for 1938 were the lowest ever attained and better than those in any large country with a comparable population. These favorable rates have shown gradual improvement during the last decade. What other field of human endeavor has shown a like record during the great depression which, despite the boost of a World War, still lingers with us? Is unemployment the lowest it has ever been? Are raiment, food and shelter more widely distributed than ever before? Has the general economic level continuously risen? Are taxes lower? To each query the answer must be a melancholy "nay."

Truly medicine has met its obligations in the past. Although admittedly not perfect and with some black sheep in the fold, our profession will unquestionably meet successfully the challenges of today. Despite the effort of the politician to encumber us with the baneful shackles of regimentation and bureaucracy, we will emerge victorious and unfettered, a beneficent profession, building a better, happier and healthier citizenry. Indeed, medicine as a profession, although under indictment for conspiracy to restrain trade, has no cause to hang its head in shame, but may stand proudly erect and face a troubled world with the assurance that it can improve its record of past achievement and continue its magnificent service to suffering mankind.

THE DIAGNOSIS AND TREATMENT OF HEART WOUNDS*

WITH A SUMMARY OF TWENTY-FIVE CASES

By I. A. Bigger, M.D.
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The number of heart wounds diagnosed and operated upon has shown a decided increase during the past few years, but it seems likely that a considerable percentage of these cases are still not diagnosed and therefore are not properly treated. There are many large general hospitals in this country in which operations for the repair of heart wounds are done rarely if at all, and yet it is significant that when a surgeon connected with such an institution, especially one in the South, becomes interested in such cases, the number operated upon rapidly increases. This has been notably true in Louisville, Memphis, Atlanta, Birmingham, and Richmond. A few such cases had been operated upon in Atlanta prior to 1930, but in the period from 1930 to 1938, Elkin[1] operated upon 22 patients with wounds of the heart or intrapericardial portion of the great vessels. In the Medical College of Virginia hospitals, the first repair of a heart wound was done in 1930, but during the past nine years 25 patients with such wounds have been operated upon. These cases are summarized in Tables 1 and 2 and in the accompanying diagram.

It seems almost certain that the increase in the number of such operations is due to more accurate diagnosis and not to an actual increase in such injuries. That injury to the heart is not uncommon is shown by the fact that in the Grady Hospital in Atlanta 2 per cent of the patients treated for penetrating wounds of the thorax were found to have wounds of the heart[1]; and in Richmond nearly 0.1 per cent of the patients admitted to the surgical service of the Medical College of Virginia Hospitals had such wounds.[2] When one considers the size and exposed position of the heart and the fact that its approximate position is generally known to would-be assassins, it is surprising that it is not more frequently injured. In reality, the heart probably is injured much more often than these figures would indicate, but many heart wounds are so rapidly

*Read in General Clinical Session, Southern Medical Association, Thirty-Third Annual Meeting, Memphis, Tennessee, November 21-24, 1939.

*From the Department of Surgery of the Medical College of Virginia.

Table 1

SUMMARY OF 25 CASES OF HEART WOUNDS OPERATED UPON AT THE MEDICAL COLLEGE OF VIRGINIA

Case No.	Instrument	Period from Injury to Operation	Location	Result	Cause of Death	Complications
1	Knife	1½ hours	Left ventricle	Recovery	—	Mild wound infection. Pneumonia
2	Knife	6-7 hours	Right ventricle	Recovery	—	Mild wound infection
3	Bullet	50 min.	Left ventricle	Death	Hemorrhage	—
4	Knife	2¾ hours	Superior vena cava	Recovery	—	Pneumonia (?)
5	Knife	1¼ hours	Right ventricle	Recovery	—	—
6	Knife	45 min.	Right ventricle and pul. artery	Death	Bilateral atelectasis	—
7	Knife	1¼ hours	Right ventricle	Death	Clot filling right ventricle	—
8	Knife	1 hour plus	Pulmonary art.	Death	Unknown	—
9*	Knife	1 hour	Right ventricle	Recovery	—	—
10	Bullet	2 hours	Right ventricle	Recovery	—	—
11	Knife	3 hours	Left ventricle	Recovery	—	—
12	Knife	2 hours	Right ventricle	Recovery	—	Wound infection. Empyema
13	Knife	2 hours	Right ventricle	Death	Cardiac hypertrophy and failure	—
14*	Knife	1½ hours	Right ventricle	Recovery	—	—
15	Knife	3 hours	Right ventricle	Recovery	—	—
16	Knife	2¼ hours	Right ventricle	Death	Pulmonary regurgitation (?), fixation of anterior pulmonary valve by suture	—
17	Knife	1¼ hours	Right ventricle	Recovery	—	—
18	Knife	2¾ hours	Right ventricle	Recovery	—	Wound infection. Empyema
19†	Knife	1¼ hours	Right ventricle	Recovery	—	Wound infection. Empyema
20	Knife	1 hour	Right ventricle	Death	Hemorrhagic erosion of mucous membrane of esophagus. Acute dilatation of stomach	—
21	Knife	1 hour plus	Left ventricle	Recovery	—	Lobar pneumonia
22	Knife	1 hour	Right ventricle	Death	Hemorrhage	—
23	Knife	1½ hours	Right ventricle	Recovery	—	—
24	Crochet needle	8½ hours	Left ventricle	Death	Hemorrhage	—
25	Knife	2½ hours	Right ventricle	Recovery	—	—

*Operated upon by Dr. H. J. Warthen, Jr.
†Operated upon by Dr. A. R. Stork.

Table 2

LOCATION OF WOUNDS AND MORTALITY RATE

	Total Patients	Deaths	Mortality Rate Per Cent
Right ventricle	17	5	29.5
Left ventricle	5	2	40
Great vessels (intrapericardial)	2	1	50
Pulmonary artery and right ventricle	1	1	100
Total	25	9	36

fatal that the victims die before they can be transported to a hospital and these cases do not appear in hospital records. This is especially likely to be true in perforating bullet wounds which usually communicate with one of the pleural cavities by a large opening, as a result of which fatal hemorrhage usually occurs.

The majority of patients with penetrating wounds of the heart who survive sufficiently long to receive surgical aid have stab wounds. These wounds do not often completely perforate the heart and the small slit in the anterior pericardium is displaced away from the wound in the chest wall as the pericardial sac fills, thus trapping the blood and producing tamponade. As the intrapericardial pressure rises, the venous pressure rises and the systolic blood pressure falls. This results in circulatory collapse and if the victim continues to struggle, death may ensue rapidly. If he survives the early period of circulatory collapse and is given proper treatment, there is usually a temporary circulatory adjustment, with distinct improvement in his general condition. In most instances it is during this period of improvement that operation should be performed.

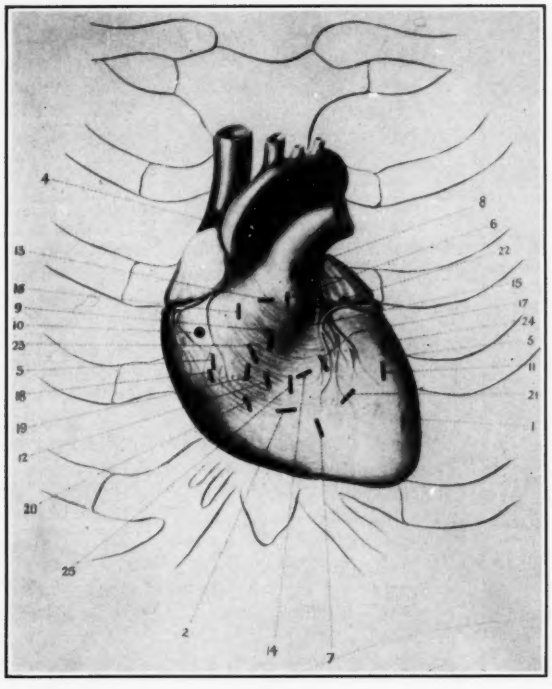

Fig. 1
Diagram showing the approximate location of the cardiac wound in each of the twenty-five cases summarized.

The history is usually of little help in the diagnosis of heart wounds, in fact, a satisfactory history usually is not obtainable. However, a patient with a wound in the cardiac area, and any bullet wound of the thorax may involve this area, who shows circulatory collapse out of proportion to the blood loss, should be suspected of having cardiac tamponade. The most important signs of tamponade are: a weak or absent radial pulse, (if the pulse is palpable it is less rapid than one would expect); distention of the superficial cervical veins; and distant muffled heart sounds. To be certain of the character of the heart sounds auscultation should be carried out on both sides of the sternum. If tamponade is suspected but there is reasonable doubt as to the diagnosis, fluoroscopic examination should be done as the final diagnostic measure. In the presence of tamponade the cardiac pulsations are obliterated and the pericardial shadow appears practically immobile. This is important in diagnosis and gives some indication as to the type of treatment indicated. We called attention to the importance of this examination in a paper presented before this Association in 1935. Since that time we have confirmed the diagnosis of cardiac tamponade in 13 patients by fluoroscopy and in no instance have the fluoroscopic findings been misleading. Roentgenograms are of no value in diagnosis, as shown in *Case 18*, which is reported below.

If the picture presented is one of hemorrhage either to the outside or into a pleural cavity, the cardiac area should be carefully auscultated, as usually a churning or splashing sound can be heard indicating the presence of blood and air in the pericardial sac. Under such circumstances, if the patient does not show prompt improvement under conservative treatment, exploration should be done without delay.

When a patient with a wound in the cardiac area is admitted to one of the hospitals of the Medical College of Virginia, he is immediately put at rest in the dorsal recumbent position with the head at a lower level than the body. He is given morphine and atropine, intravenous fluids, and, if there is profound circulatory collapse, 5 minims of epinephrine is administered subcutaneously. A more careful examination is made after these measures have been instituted, and if the findings suggest heart wound, fluoroscopy is done.

As indicated in a previous report,[3] we divide heart wound cases into four groups. In Group 1, we place those patients with only moderate hemorrhage, without tamponade. In Group 2 are those patients with tamponade who respond to conservative treatment, showing a rise of pressure to nearly normal. They usually have small penetrating wounds or injury to moderate sized coronary vessels. In Group 3 we place those patients with severe tamponade in whom the blood pressure remains low in spite of conservative treatment. In Group 4 are those patients with severe continued bleeding into a pleural cavity or to the outside, with or without tamponade.

Patients with only moderate intrapleural hemorrhage without the signs of tamponade are

treated conservatively even though pericardial injury is proven by the presence of both blood and air in the pericardial sac.

Patients with tamponade who respond to conservative treatment by a return of the blood pressure to a normal level should be treated conservatively, for such a rise of pressure probably means that the bleeding has been spontaneously controlled. However, they should be watched carefully for several hours and have frequent blood pressure determinations and venous pressure readings. If the pressure gradually falls after the preliminary rise, the pericardium should be aspirated and if, following this, there is no further evidence of intrapericardial hemorrhage, operation is not indicated. Both Singleton[4] and Strieder[5] have reported cases treated successfully by aspiration alone. If tamponade continues to recur, operation of course is indicated.

Also, in elderly patients, especially those with a history suggesting coronary disease, operation should be avoided if possible. This suggestion is made as a result of our experience with the case reported below and a report by Morris[6] of a similar experience.

Case 24.—Miss E. P. J., a white woman 63 years of age, was admitted to the Memorial Hospital at 12:00 noon on June 10, 1939. She had been found at about 8:00 o'clock that morning with the base of a crochet needle projecting between the ribs and pulsating with each heart beat. The wound of entrance was in the fourth interspace within the nipple line. Her general condition was good. Under local anesthesia an incision was made over the base of the needle, which was grasped by a pair of heavy forceps and withdrawn. Strong pulsations were transmitted through the needle and considerable force was necessary to extract it from the heart. Following removal of the needle her pulse and blood pressure were carefully observed and both remained satisfactory for about 20 minutes. At the end of this time she showed a fall in blood pressure which was rapidly progressive, and 10 minutes later it could not be obtained and her radial pulse was not palpable. She was somewhat cyanotic, the neck veins were distended, and the heart sounds were distant and muffled.

At operation there was a moderate quantity of blood in the left pleural cavity and blood was spurting from an opening in the left side of the pericardium, which was dark and tense. The wound was in the left border of the left ventricle about 1½-2 inches above the apex. An attempt was made to close it by fine silk sutures, but when the sutures were tied they immediately cut through, although undue tension was not used. Finally, after great difficulty and much loss of blood, the wound was closed by deep sutures of heavy plain catgut, with the pericardium used as a patch.

The patient was given intravenous fluids and when returned to the ward her systolic blood pressure was 80 millimeters of mercury. Unfortunately, a short time later the intravenous injection was temporarily discontinued because the needle had slipped out of the vein. Her blood pressure fell rapidly and although the venoclysis was again started, her condition did not improve. Preparations were being made for a blood transfusion when she died, one hour and forty-five minutes after leaving the operating room.

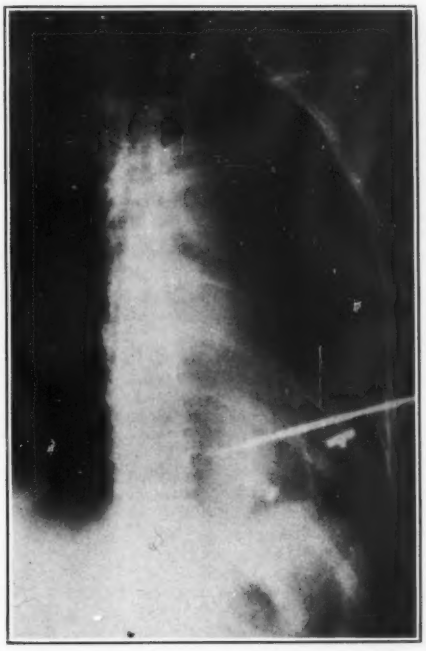

Fig. 2, Case 24
Roentgenogram showing crochet needle in the heart.

At autopsy the patient was found to have an almost complete obliteration of the right coronary artery and a marked reduction in the caliber of the left coronary artery. The myocardium was yellowish-red in color and very friable.

It is possible that with a wound as small as this one, repeated aspirations might have sufficed. Even after the heart had been exposed the appearance of the myocardium should have served as a warning against suture. Under such circumstances digital pressure might have been effective in controlling hemorrhage.

Patients with tamponade and persistently low systolic blood pressure are operated upon as soon as possible, but sufficient time is allowed for the use of proper aseptic precautions. In the more serious cases aspiration is done while the operating room is being prepared. This is important not only because it may prevent death from circulatory failure but also because pro-

longed cerebral anoxemia may cause paralysis, mental deterioration, or even death. The following case is illustrative.

Case 18.—C. F., a 25-year-old negro, was admitted to the St. Philip Hospital at midnight on May 31, 1938. He had been stabbed about 30 minutes before admission, the knife entering immediately to the right of the sternum in the lower portion of the third interspace. His pulse and blood pressure could not be obtained. The external jugular veins were greatly distended and the heart sounds were distant and muffled. A roentgenogram showed no appreciable enlargement of the pericardial shadow, but on fluoroscopy it appeared immobile.

He was given morphine and atropine, a small dose of epinephrine, and intravenous fluids. When he reached the operating room his venous pressure was 320 millimeters of water and the radial pulse was not palpable, although before he was transferred to the operating room the pulse was palpable and his systolic blood pressure was 70 millimeters of mercury. One hundred and thirty cubic centimeters of dark blood was removed from the pericardial sac by aspiration. Following this his systolic pressure rose promptly to normal and his venous pressure dropped to 170 millimeters of water. However, within a few minutes his venous pressure had again risen to 260 millimeters of water. Operation was rapidly carried out by a transpleural approach through a T-shaped incision. A large quantity of blood was evacuated from the pericardial sac and a wound in the right ventricle was repaired. The patient recovered.

Aspiration was probably a life-saving measure in this case, but this cannot be proven; however, it is obvious that if the great increase in intrapericardial pressure had not been temporarily relieved by this simple measure, a hasty operation, without proper preparation, would have been necessary.

Patients with continuous bleeding from heart wounds do not often survive long enough to receive surgical aid, but we have operated upon two of them. Both died from hemorrhage but, in spite of this, we believe that these patients should be operated upon immediately, as occasionally one will be saved in this way. The following case is of interest in this connection.

Case 22.—W. C., a 37-year-old negro, was admitted to the St. Philip Hospital on April 29, 1939. He had been stabbed about 20 to 30 minutes before admission and the police stated that he had left a trail of blood by which he was traced for two blocks. When he entered the hospital he had a sucking wound of the left chest in the second interspace, the medial end being about 1 inch from the left border of the sternum. He was in profound shock, cold, clammy and pulseless. He was bleeding freely from the wound when seen by the surgical resident, Dr. T. D. Watts, who inserted a gloved finger through the wound into the pericardial sac and thus plugged the opening in this structure. In this way he prevented the loss of blood from the pericardial sac and produced tamponade. The patient was given treatment for shock, including morphine and atropine, the Trendelenburg position, and intravenous fluids. He was operated upon 30 minutes after admission and about one hour from the time of injury. He had lost a large amount of blood and even during the administration of intravenous fluids his condition did not show appreciable improvement. At no time was it possible to obtain his radial pulse or blood pressure. When the heart was exposed it was beating weakly and irregularly. The wound in the upper portion of the right ventricle was repaired with interrupted silk sutures. The patient died approximately one hour later.

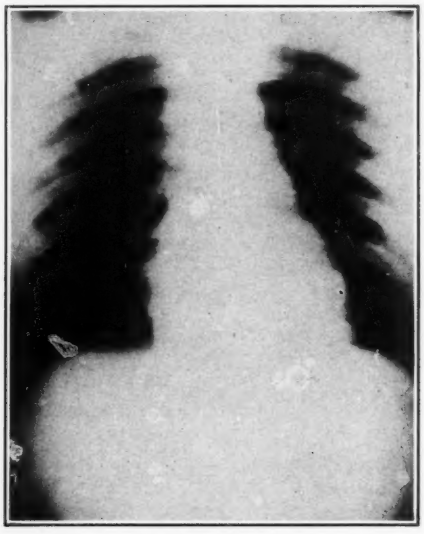

Fig. 3, Case 18

Anteroposterior roentgenogram showing only slight enlargement of the cardiac shadow, although fluoroscopy showed no visible pulsation.

The chief interest in this case centers about the fact that the bleeding was controlled by occluding the opening in the pericardium, thus producing tamponade, which was probably the best method of treatment under the circumstances. Although the patient eventually died, it is entirely possible that he could have been saved if a large supply of suitable blood had been available for transfusion. An immediate attempt at repair of the wound would almost certainly have been fatal and an attempt to plug the wound in the ventricular wall would probably have resulted in tearing of the thin muscle, with the same result.

In those patients with wounds which penetrate any of the chambers of the heart or divide impor-

tant coronary vessels we administer heparin postoperatively. This is done because of our experience with *Case 7*, previously reported,[7] in which death resulted from a clot which completely filled the right ventricular cavity.

SUMMARY

The findings and results in twenty-five patients with heart wounds, operated upon in the Medical College of Virginia Hospitals during the past nine years, are summarized.

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HISTOPLASMOSIS OF DARLING

REPORT OF A CASE*

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and
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In the past thirteen years several cases of histoplasmosis have been reported as occurring in the United States. Herein is added a new case, originating in Kentucky.

Histoplasmosis is a specific fungus disease caused by the fungus *Histoplasma capsulatum* and characterized by remittent pyrexia, leukopenia, secondary anemia, and splenohepatomegaly. The disease has always terminated fatally. Infection is generalized (except in one reported case in which the diagnosis is questionable) and its course may be acute or chronic. Necrotic areas are formed in the lungs, liver, and spleen and also in the large and small intestines, giving the appearance of a generalized tuberculous infection. The endothelial and epithelial cells of the lungs, liver, and spleen are especially affected. Cases have been reported only from the United States and Central America.[1-27]

Following is reported another case of histoplasmosis, the seventh to be described as occurring in the United States.

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CASE REPORT

History.—A 33-year-old married colored woman was admitted to the Louisville City Hospital September 3, 1938, with complaints of chills and fever. The onset of her illness dated back one week when, following a visit to the country, she complained of lumbar pain which ascended to the chest. This persisted for one day and was followed by a chill with aching pains across the chest and shoulders. The main features of her illness, aside from the above symptoms, were daily chills followed by fever and profuse perspiration associated with anorexia, general malaise, and shortness of breath. The patient vomited once on the day of admission and also had some urinary frequency. There were no abdominal or thoracic pains, no diarrhea or melena, no sore throat or headache. There was no history of previous lung or heart disease.

The past history revealed that on March 15, 1938, the patient had been examined at the Dermatological Clinic for a small lesion in the right temporal region which, she stated, first began about six months previously as a "blackhead" and gradually became larger. The lesion was indurated, centrally ulcerated, and had a pearly border. A blood Kahn on that date was positive, and the lesion was then considered to be a superficial tertiary luetic lesion. She did not return to the Clinic until July 28, 1938. The lesion then appeared about the same as of a few months before; a diagnosis of possible tertiary syphilis was again made, and weekly injections of bismuth salicylate were advised. The patient returned for six weekly injections of bismuth.

On March 21, 1938, the patient was admitted to the Surgical Service with a diagnosis of myomata uteri.

The white blood count at this time was 3,850, with 67 per cent polymorphonuclear leukocytes, 24 per cent lymphocytes, 8 per cent monocytes, and 1 per cent basophils. X-ray of the chest revealed a slight rounding of the left ventricle. There was an old tuberculous scarring in the lung apices with considerable increase in lung markings throughout both sides, suggestive of an exacerbation of an old tuberculous process or bronchiectasis. After a supracervical hysterectomy on March 30, 1938, her course in the hospital was uneventful.

In childhood she had had measles, mumps, pertussis, and occasional mild attacks of tonsillitis. Her general health was always good. She was employed as a "stemmer" in a tobacco factory.

Physical Examination.—The patient was a well-developed and well-nourished colored woman not appearing acutely ill. The skin was hot and dry with profuse perspiration in the axillae. The inguinal lymph nodes were slightly enlarged, but not tender. The skin lesion of the right temporal region had healed. The teeth were carious. The left tonsil was buried, having large, clean gaping crypts. There was no enlargement of the heart to percussion and no murmurs were detectable. Examination of the lungs revealed Traube's space to be dull at the left base anteriorly with diminished breath sounds in the left base anteriorly and laterally. The entire abdomen was somewhat resistant to palpation, but there was no pain or rigidity to pressure; however, there was a suggestion of a "doughy" feel. No abdominal organ was palpable. The neurologic examination was negative. The temperature was 102.6 degrees F. with respirations of 120 and heart rate of 28. Blood pressure estimation was systolic 168 and diastolic 106.

The examination of the eye grounds revealed no abnormality.

Laboratory Findings.—Stool examinations were persistently negative for members of the typhoid paratyphoid-dysentery group. All agglutination tests with the patient's blood serum and *B. typhosum, B. paratyphosum A, B. paratyphosum B, Brucella abortus* and *B. tularense* antigens were negative on several occasions during the patient's illness. The urine was cultured several times, and on August 7 *B. coli* was found, while on September 14 *Streptococcus viridans* was isolated. Two urine cultures taken later were negative. The sputum was negative for tubercle bacilli on ten examinations. Nasopharyngeal smears were negative for meningococci. Numerous blood cultures revealed no growth after ten-day periods of incubation at 37 degrees C. A blood culture taken five days after admission was left for a month before investigation; this proved to harbor the micro-organisms to be described later. No malarial parasites were seen in the blood smears.

Fig. 1
The enlarged spleen showing graulomatous areas.

Kahn tests were positive on both blood and spinal fluid. The colloidal gold curve was 1112210000. On admission the blood count was 4,410,000 red blood cells with hemoglobin of 13 grams and a white blood cell count of 6,000. The differential smear showed 88 per cent polymorphonuclear leukocytes and 12 per cent lymphocytes. The urine was amber; specific gravity 1.027; albumin three plus; sugar trace. It showed occasional fine granular and hyaline casts, three to four pus cells per field, and many bacteria. Subsequent urinalysis showed albumin to be three plus and occasional fine granular casts. Repeated blood examinations showed a persistent leukopenia, dropping from 6,000 white blood cells at admission to 3,500 a few days before death. A severe secondary anemia was also encountered during the course of the illness. Nonprotein nitrogen determinations of the blood showed a variation of 30 to 49.5 mg. per cent. Plasma bicarbonate determinations of the blood on several occasions were normal. Several chest plates showed cloudiness and soft mottling throughout both lungs. These findings were interpreted as being consistent with bronchopneumonia.

Course.—The temperature was continuous in character the first week and ranged between 103 and 105 degrees F., then became irregularly remittent and varied from 98 to 107 degrees F. the last three weeks. There were numerous chills the last three weeks, often more than

Fig. 2
Low power magnification of spleen showing giant cells containing the parasites.

Fig. 3
Low power magnification of liver showing typical lesions containing many organisms.

one per day. Profuse perspiration followed each chill, and the pulse rate varied between 120 and 160. Respirations were rapid during the whole course of the illness, varying from 30 to 70. Blood pressure readings gradually dropped from the admission pressures of 168 systolic and 106 diastolic to 118 systolic and 78 diastolic two days prior to her death.

The stools were loose on admission and during the last week were liquid and of a greenish-yellow color. The day after admission the spleen was thought to be palpable. The next day there was no doubt as to its increase in size. Clinically the patient appeared to have typhoid fever, but all bacteriologic data failed to support this view. In the second week when the temperature became remittent and the splenic and the liver enlargement were easily revealed, it was thought that the patient had acute miliary tuberculosis, since the x-ray of the chest was consistent with a diffuse tuberculous process. The complaints of the patient at that time were soreness of the muscles over the body and weakness. There was no actual pain. Chest re-examinations revealed an impaired percussion note in the right base with many course inspiratory rales in the same area. The liver and spleen gradually became more readily palpable and were firm to the feel. There was increasing tenderness on pressure over the spleen. A moderately productive cough was present during the whole illness.

On September 16, signs of meningeal irritation were thought to be present. Spinal puncture on this day revealed, however, an apparently normal fluid with normal mechanics.

The patient's course was downhill during the whole illness. Sulfanilamide in doses of 20 grains (1.2 grams) four times a day was discontinued after a trial period of four days because of its ineffectiveness. Several blood transfusions were given for the severe anemia, but were of only temporary aid. Parenteral fluids were given later in the illness to combat dehydration. The patient gradually became weaker and lethargic and expired abruptly October 2, 1938, thirty-one days after admission.

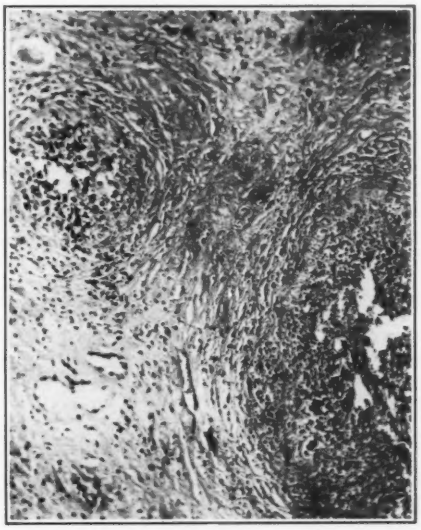

Fig. 5
Section of lung showing replacement fibrosis.

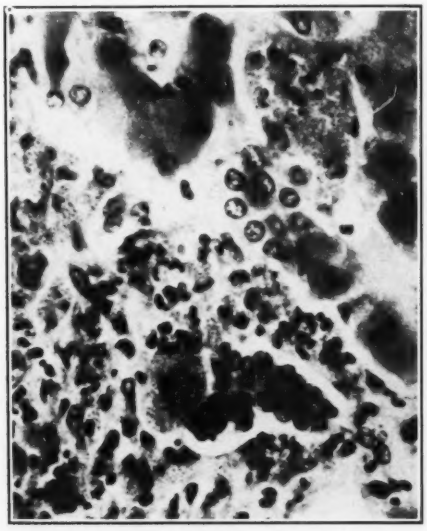

Fig. 4
High power magnification of liver showing phagocytic cells containing numerous organisms.

Fig. 6
Active lesions in lung.

POSTMORTEM EXAMINATION

The postmortem examination was performed one hour and fifteen minutes after death. The body was that of a well-developed, well-nourished, young adult colored woman 160 cm. in length, weighing approximately 130 pounds. The pupils were equal, but slightly irregular. There were some early decubitus ulcers over the back. The teeth were quite dirty and carious. There was a 16 cm. midline lower abdominal scar.

The peritoneal cavity contained many adhesions attached to the old abdominal scar and connecting the loops of the small intestine.

The lungs were heavier than normal. Scattered throughout the substance of the lungs were nodules about 0.5 cm. in diameter. These nodules were uniformly distributed throughout both lungs, but were not particularly abundant. They were firm, grayish-white in color, and granulomatous in character. There did not seem to be any pneumonia in the remaining portions of the lungs.

The spleen weighed 375 grams. It contained multiple areas varying from 0.5 to 2 cm. in diameter. These were moderately firm in consistency, extended deep into the substance of the spleen, were white in color, and granulomatous in character.

The mesenteric lymph nodes averaged about 0.5 cm. by 1 cm. in size, were firm, and gray in color.

The liver was extremely large, a very pale yellow in color, and studded throughout its entire extent with 1 mm. white granulomatous nodules. The liver substance was relatively firm in consistency.

The kidneys were quite large, especially the left. The capsules stripped with ease. The kidney substance was quite pale, and there was poor demarcation of the medullae and the cortices. On the anterior surface of the upper pole of the left kidney was a 2.5 cm. gray-white granulomatous area.

Permission for an examination of the head was not granted.

MICROSCOPY

The spleen contained extensive areas of old caseation necrosis and a replacement fibrosis in the necrotic portions. In and around the necrotic areas were numerous multinucleated giant cells, many of which contained parasites. In addition to the giant cells, there were numerous large phagocytic mononuclears, some of which contained organisms morphologically similar to those seen in the giant cells. These parasites were microscopically identical with those described by Darling and others who have contributed to the literature on *Histoplasma capsulatum*. There were also many small discrete granulomatous areas, in all of which there was a rich infiltration of monocytes and histiocytes, which were partly granular and partly foamy in type.

The abdominal lymph nodes contained granulomatous forms similar to those seen in the spleen.

The islands of Glisson of the liver contained numerous small granulomatous foci, miliary in character, and morphologically identical to those seen in the spleen. Some of the older granulomas showed replacement by dense connective tissue, forming sharply circumscribed nodules.

The adrenals contained a single small area of recent necrosis without granulation tissue formation.

The bronchial lymph nodes showed complete replacement by old fibrocaseous material.

The proximal and distal convoluted tubules of the kidneys were dilated, and many of them showed marked cloudy swelling and beginning simple necrosis of the epithelial cells.

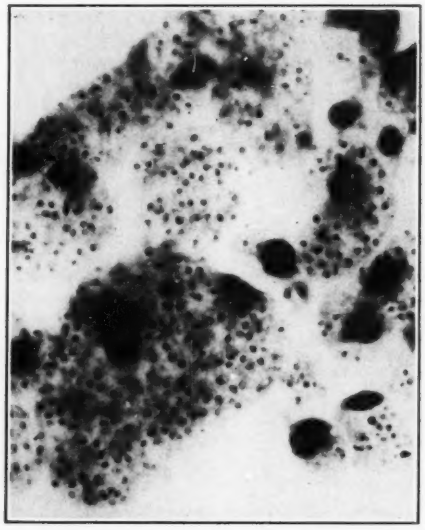

Fig. 7

High power magnification of lung to show numerous organisms. Note the typical pale, quite indistinct capsule.

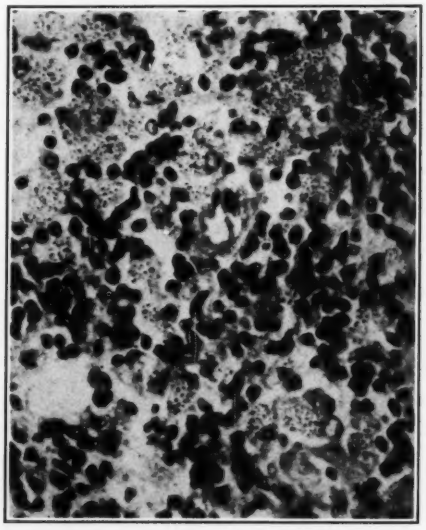

Fig. 8

Section of lymph node containing lesion with numerous phagocytized organisms.

The lungs contained numerous miliary sized granulomas similar to those present in the other organs. Some of these nodules were becoming confluent; others showed extensive caseation. In some of the older granulomas there was complete replacement by dense connective tissue forming sharply circumscribed nodules.

BACTERIOLOGIC EXAMINATION

Smears from the spleen immediately after autopsy revealed numerous gram-negative yeast-like organisms surrounded by thick colorless capsules varying from 1.5-4 microns in diameter. No mycelial elements were seen. Inoculations were then made by streaking rabbit blood (5 per cent) agar and inoculating Douglas tryptic digest broth (pH 7.6) and an anaerobic deep meat tube. After four days, a fine growth of small, gray and lusterless confluent colonies was noted on the blood agar, but there were no signs of growth in the Douglas broth or in the anaerobic medium. Smears of the material from the blood agar plate revealed the colonies to be made up, for the most part, of budding yeast-like forms. Therefore, transfers were made to media suitable for fungus development, but attempts to grow the organism on cultural media other than rabbit blood agar or media enriched with human blood were unsuccessful during the two weeks following its first isolation. Further cultural studies and animal inoculations, to be reported later, proved the organisms to be the *Histoplasma capsulatum* of Darling.

SUMMARY

(1) A case of Darling's histoplasmosis occurring in a thirty-three year old Negress, having the characteristic clinical and autopsy findings of the disease, is herein recorded.

(2) The *Histoplasma capsulatum Darling*, considered to be the etiologic agent of the disease, was isolated from the patient's spleen postmortem and from the blood antemortem. The blood sample was taken twenty-six days before death.

(3) The fungus involved has a double cycle, producing encapsulated minute round to oval parasites in the animal host. In culture it has three definite phases: (1) yeast-like cells predominating; (2) mycelial growth predominating; and (3) development of asci and of ascospores.

(4) A generalized fatal infection is produced in man, the parasite having an especial predilection for the reticulo-endothelial system.

(5) The characteristic clinicopathologic picture of intermittent pyrexia, leukopenia, secondary anemia, splenohepatomegaly with focal necrosis of the lungs, liver, spleen, and lymph nodes was observed in the case herein reported.

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TWENTY YEARS' EXPERIENCE WITH SKIN CANCER*

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It seems to me that a chairman's address should bring before the section something valuable, gathered from experience of a long service in some particular field. Looking at the subject from this point of view it would appear that, if I have anything of value to offer, from my experience of twenty years in dermatology, it is the work I have done in cancer. In the discussion which follows, all statements and conclusions enumerated about cancer are referable only to cancer of the skin and oral mucous membrane. This statement, I hope you will keep clearly before you, as no other type of cancer is considered in this paper.

First, I should like to draw a picture of the cancer problem in the state of South Carolina as I saw it twenty years ago and as I see it today. I know something of this problem, gleaned from practice from every county in the state, from information gathered from others in medical meetings over the state, and finally from seven years' experience as chairman of the State Cancer Committee. These contacts have given me, I believe, sufficient experience to speak with some authority on the subject. If the picture I present to you of South Carolina is correct, it is of interest to you, for I am certain the true South Carolina picture of the problem is typical of the other southern states, which you represent. Twenty years ago there were many advanced and incurable skin cancers in the practice of every physician, who treated these conditions. Why? Many were inherited from cancer quacks. Many were recurrences and incurable due to improper treatment, and a greater number had presented themselves too late.

I am of the opinion that education has put the cancer quacks on the run. The most successful quack in South Carolina has moved four times in the last five years and has finally left the state. Competing with the quacks has been a difficult problem for two reasons. Formerly in many sections the quack was the only one who promised a sure cure. His methods were more drastic, and therefore, often more successful than the recognized method. The intense suffering from the caustic pastes and the disfiguring scar, which often was the cause of a second cancer, were ignorantly tolerated as a necessary part of the treatment. I am unable honestly to compare unfavorably the quack's treatment, using caustics for cancer of the lower lip, with the surgeon's v-shaped incision and complete dissection of all glands of the neck. In all fairness to the surgeon, I will say that some of the methods furnished by dermatologists were no better. A second reason for the quack's success was that every lesion on the skin, that he had the opportunity to treat, was a cancer and treated as such. This served greatly to enhance his reputation.

I believe that today practically all cases of cancer find the way comparatively early to the offices of those who are prepared to treat cancer adequately. I say practically, but not all. There is still much educational work to be done, both with the public and the physician. We have not yet completely eradicated the old and prevalent idea that certain conditions of the skin should be let alone for fear cancer will develop. Further educational work along this line is necessary. To obtain this objective the following points should be emphasized: any lesion, that does not heal as normally as one has the right to expect, should be considered as a possible cancer: any mole, wart or scar, that is subject to irritation, is likely to become malignant. Finally, no greater mistake can ever be made than to tell a patient to wait for pain. When a cancer causes pain, it is too late. Every dermatologist should consider it his duty to impress these facts on all his patients. It is your duty to make a missionary out of every satisfied patient. In this way you will aid the cancer educational work, improve cancer therapy, and at the same time legitimately increase your own practice. In South Carolina much of this work has been fostered by the American Society for the Control of Cancer. The formation of a State Cancer Committee to work with the society in a cancer educational program has played no small part in the advancement of cancer education. Their success has not been limited to the actual work done by the society, for it has stimulated repeated educational talks and clinics on cancer in practically every institution, and before almost every civic organization in the state.

The government is now entering into the field of cancer both from an educational and therapeutic angle. I can visualize in the next few years all the large hospitals of the state adequately

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equipped with radium and expensive deep therapy x-ray machines, manned by salaried physicians and technicians, where all cancers will be treated free. Will such institutions help to solve the problem of skin cancer? If the skin cancers of the future are to be advanced cancers with glandular involvement and other complications, then there may be a need for such institutions. But if such is to be the case, then our educational work to date must be failing and going backward. I think now of a syphilographer, who recently complained of the lack of advanced syphilitic lesions for teaching purposes. I hope and believe that the day is not far distant when we shall see a great scarcity of lectures, where we are shown the many advanced cancers the speakers claim to have cured. My theme is that the progress we have been making in the past ten years in educational work, in early diagnosis, and increased efficiency in methods of treatment as far as skin cancer is concerned, will make such institutions unnecessary and such lectures impossible. A well trained dermatologist with the ordinary equipment will be able to cure practically one hundred per cent of cancer in his office. The tendency in that direction is shown in my statistics.

In reviewing my cases of skin cancer, the most outstanding point noticed is the gradual decrease in the number of advanced cases. Up to ten years ago, there were always in my care, one or two cases of incurable cancer. Dessication, moderately deep therapy, radium and radon were used more extensively than today. Now these severe methods are seldom required. My secretary, working with these statistics, asked me why I formerly charged much more for treating cancers. The answer was that ten to fifteen years ago many cancers required extensive treatments over long periods. Today many are cured with one treatment.

In the preparation of this paper, I sent a letter to seventy-one physicians in South Carolina who had referred cases to me and others who might have encountered patients whom I had treated. To my surprise, I received sixty-eight replies. Such cooperation, together with the fact that all the cases came from small towns and rural communities, and the follow-up system I have practiced, have made these statistics very accurate. I have selected four hundred and eighty-seven cases of well developed skin and oral cancers where the follow-up was complete for a period of at least five years. I have seen many recurrences, but practically all were seen early and successful treatment immediately given. I have records of nineteen deaths and an analysis of these failures is, I believe, instructive. Five were extensive cancers of the mouth. The ages were, one forty-two years old and the other four averaging seventy-four. In each of these five cases, severe oral sepsis was present. This is undoubtedly a great factor in oral cancer. It is my belief that it even plays a part in cancer of the face. Cancer of the lower lip totaled seventy-six cases with two deaths: ages eighty-four and eighty. Cancer of the face: two hundred and fifty cases with seven deaths, average age seventy-one years. Four of these had been treated by quacks and were poor risks. Two others were over eighty years old. A death occurred from squamous celled cancer on the back of the hand with metastasis to the lung. The treatment was inadequate because the patient did not follow advice. A death, from malignant keratoses of the hands and feet, was associated with central nervous system syphilis. A death occurred from malignant mole of the dorsal surface of the foot with metastasis thirteen years later to the groin and pelvic region. There were two other deaths that I am not able to classify. A patient had a lesion on the cheek that resembled an ordinary basal celled cancer, the local lesion was cured with fulguration and one x-ray treatment. A year later the patient was admitted to the hospital with throat trouble, and was found to have extensive destruction of two cervical vertebrae. Metastases to the glands of the neck seem to have been a late development. A second case occurred in a patient who was operated upon for a brain tumor. Cancer was found which was supposed to have spread from a sebaceous cyst that I had removed from the neck two years previously.

These statistics, while not complete in all details should show that practically all cases of skin cancer can be cured if treated early and adequately. In conclusion, I wish to emphasize six points that are important in cancer therapy.

(1) Overenthusiasm in the use of x-ray and radium should be avoided. Having an adequate supply of these necessary remedies should not lead us to overtreat skin cancers, as much harm can be done in this way.

(2) Confidence, even a certain amount of boldness, is necessary in the treatment of cancers.

(3) Persistence in following one type of treatment, when not getting the desired results, is inadvisable.

(4) The importance of daily dressings should be stressed. I have seen many skin cancers fail to heal solely because of lack of proper after treatment. We are often so engrossed in the proper application of our radium and x-ray that we overlook the fact that a local burn needs special care.

(5) Removal of warts and moles is advisable in practically all cases, except in the very old individuals. I have urged mothers to have all moles removed from their young daughters. I have never failed to remove a wart or mole, with the idea that by so doing a cancer might develop. You do not make a cancer out of a mole, by thoroughly destroying it.

(6) The policy of a fixed charge for complete cure produces a favorable reaction in most cases. I am convinced that this is good practice for both patient and physician. By frequent inspection, you can prevent keloid scars and recognize recurrence at an early stage. Also, it gives further opportunities for educational work.

An intelligent patient who has been entirely cured, often has more beneficial influence on cancer education in the community than the physician himself. This idea is being utilized to good effect in the Cured Cancer Club, fostered by the American Society for the Control of Cancer.

CLINICAL MANAGEMENT OF URETERAL STONES*

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The records of Watts Hospital show that during the past seventeen years there have been admitted to this institution 1,158 cases of urinary calculi. All of these patients were treated on the urological service. A classification based on the location in the urinary tract is as follows: renal 337, ureteral 700, bladder 114, urethral 8. The 700 ureteral stones comprise 60 per cent of the total number. A recent study of the series prompted this report, and in it we shall review the clinical management of certain types of cases.

In the past few years a number of large series of ureteral stones have been published. In these various communications details of technic have been elaborated upon and the literature thoroughly reviewed. No effort will be made here to repeat those things that have already been emphasized. In the clinical handling of this series of cases we have encountered many difficulties both in diagnosis and treatment; it is with these phases of the subject that we wish largely to deal.

The question of whether or not a stone is present is not always an easy one. As valuable as it is in the diagnosis, the x-ray examination is often misleading, usually as a result of one's accepting a negative report as excluding stone. Intravenous urography has not contributed greatly to the diagnosis of these cases because the use of the ureteral catheter imparts much information that can be secured in no other way. With the catheter: obstruction may be felt, "stone feel" elicited, retained urine withdrawn and cultured, its characteristics noted, and pain and spasm relieved. We have repeatedly found stone by ureteral catheterization when it could not be shown in the x-ray. It may be said, then, that the diagnosis of ureteral calculus is definitely urologic and not radiologic.

A majority of stones in the ureter are accompanied by some degree of urinary infection, and this constitutes possibly the most serious complication of the disease. It is desirable to know the types of organisms as early as is practicable. For several years we have made routine cultures at the time of the first cystoscopy. In a recent series of 117 cases, 89 showed positive cultures. This is 76 per cent of the cases. All of the positive cultures were transplanted on a special medium suggested by Thompson and Schulte for identification of urea-splitting organisms. Of the 89 infected cases, urea-splitting bacteria were found in 35, or 39 per cent of those infected. In this group the staphylococcus predominated; it was found in 27 instances. Of the eight remaining, three were mixed infections of staphylococcus and streptococcus, two streptococcus alone, two proteus, and one an unidentified bacillus. We have been struck by the large number of urea-splitting staphylococci that have been associated with primary calculi. Especial care directed toward eliminating the urea-splitting infection is necessary if recurrences are to be prevented.

For some time we have attempted to differentiate primary from secondary calculi. This can-

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not always be done with certainty. The work of Randall[6] has encouraged us in our efforts to make this differentiation. Usually the primary stones are small, rounded, and often dark in color. The faceted area described by Randall can practically always be found. It may be a slightly flattened space on an almost spheroidal stone, or a roughened area, sometimes slightly raised, but may be depressed into the surface. A small amount of white or light colored material is not infrequently present in this area. Analysis has shown that most of them are composed largely of calcium oxalate, but all have shown at least a trace of calcium phosphate.

In the routine clinical management of ureteral calculi, it is difficult to study every case thoroughly from a bacteriologic and chemical standpoint. Many busy urologists have not adequate facilities for conducting these studies. However, it should be recognized that the obligation to the patient has not been met unless all possible precautions have been taken to prevent recurrences. By relieving the obstruction and removing the stone we have not met our entire responsibility. Progress in the treatment of all forms of calculus disease will probably be attained as a result of research in chemistry and bacteriology rather than from the introduction of a new surgical or instrumental principle.

The work of Southern urologists has been pre-eminent in contributing to the advancement of our knowledge of urinary stone. Among those who have passed on, Dr. A. J. Crowell and Dr. Joseph Hume are pioneers in the field. Dr. Bransford Lewis devised some of the first instruments to be used in the treatment of ureteral stone. Holmes and Copland and Alyea[2] have recently published outstanding clinical contributions on the subject. The work of Keyser[5] with the experimental production of calculi has been valuable from a research standpoint. Stone disease is more common in the South than in other sections of this country; for this reason Southern urologists are in a favored position to carry on productive work on the clinical aspects of the disease.

The general management of stones in the ureter has been too well standardized and emphasized to warrant a detailed account of procedure. The treatment of this series extends over a period of 17 years and during that time many minor variations in technic have been introduced, but in the main very little has been added since the work of Crowell in 1921. Our results have been satisfactory so far as mortality is concerned: only four deaths in 700 cases, or 0.56 per cent, but a sizable number have been very ill and the ultimate results in many were not all that could be desired. The poor results, we have felt, were not so much due to the want of a new method, but to the questionable application of means with which we were familiar. In other words, the decision as to what to do, at the proper time, in a given case, has been the factor that has determined our result.

The following summary shows in general the management of our 700 cases:

METHODS OF TREATMENT OF 700 CASES OF STONE

Passed under observation without treatment	30
Passed after cystoscopic manipulation	410
Ureteral meatotomy done	30
Removed by mechanical stone remover	44
Dislodged into pelvis and left	29
Disappeared under treatment	52
Operated upon for removal of stone (not including nephrectomies or nephrostomies)	98
Operation advised and declined	7
Total	700

Because of obstruction and the possibility of infection, the palliative or expectant treatment can be followed for only a limited time. The size and location of the stone, the degree of infection, and the condition of the patient are the factors that determine how long instrumental or operative treatment may be delayed.

If it is decided that instrumental treatment should be employed, as many catheters as possible are passed beyond the stone. Spinal anesthesia is often employed for these manipulations. We use from 50 to 100 mgm. of procaine hydrochloride crystals and do not hesitate to give it repeatedly, even if many treatments are required. It is preferable to pass a number of small catheters rather than one or more larger ones. Often six or eight No. 5 or No. 6 catheters can be passed if necessary. In addition to the drainage and dilatation so secured, it is advantageous to twist the catheters on removal and in this way ensnare the stone and drag it down, sometimes into the bladder or even entirely through the urethra. We have not employed continuous traction on the catheters after ensnaring the stone, as suggested by Alyea, but agree that it may be of advantage if the pull is not too great and the patient does not suffer too much pain. Traction, however employed, must be gentle.

Several years ago we abandoned the routine irrigation or injection of the catheters before removal, with lubricating or anesthetizing solutions. It is difficult to maintain sterility of the protruding catheter ends and easy to introduce infection by injection. A simple device used by Drs. Ballenger and McDonald has been of value to us in caring for the draining catheters. It is made by using the large rubber tips employed for closing the fenestrum of the cystoscope. The tips without openings are used. A small hole is punched through the tip with a hot wire. This gives a tight fit for the lubricated catheter end that is forced through it. These are then fitted on small glass connecting tubes and by combining straight and Y tubes, many catheters may be drained through a common rubber tube to a bottle by the bedside, in a closed system of drainage.

When Crowell advocated cystoscopic manipulation of stones it was widely accepted and soon generally used. By 1928 (seven years later) a considerable reaction to it had developed, largely due to the incidence of serious infections that developed in the course of repeated manipulations. It became evident that many stones could be removed more safely by operation. In the first 300 cases of this series, treated before 1931, 9.3 per cent were operated upon. This is almost the exact percentage of cases operated upon in the Crowell series reported by Squires[4] in 1930. In our next 221 cases,[3] compiled in 1935, the percentage of operations increased to 16. From 1935 to 1938, 178 cases treated showed that 18 per cent had been operated upon, twice that of the first 300. Since the first of 1938 the general use of the new urinary antiseptics has proven so helpful in combating this complication that we have operated upon only 15 per cent of our cases. It seems likely that with the help of these drugs cystoscopic manipulation of stones may be used in the treatment of a larger percentage of cases than has been the case for the past decade.

There is little difference of opinion regarding the value of mechanical stone removers. Their use should be restricted to small stones in the lower third of the ureter after a considerable degree of dilatation has been accomplished by multiple catheters. Having at one time or another employed practically all of the suggested devices, we have no preference for any of them and feel that in general their use does not contribute notably to the handling of these cases. Although it requires more patience on the part of the surgeon and the patient, it is usually safer to continue with repeated dilatations of the ureter with catheters than to attempt forcibly to remove the stone by any method employing much traction.

Patients with acutely impacted calculi at the uretero-pelvic junction may present a difficult problem. Stones that become lodged at this point are usually of moderate or large size and are likely to be accompanied by infection. It is among these cases that we have seen our most seriously ill patients. The symptoms of such a case are often misleading and several days may be consumed before the attending physician seeks urologic aid. Gallbladder disease may be suspected because the pain often is not referred down the ureter, but rather towards the epigastrium. As a result of the acute and complete obstruction, infection may be severe; so severe that blood stream invasion is considered and sometimes occurs. Prompt treatment with drainage as its primary object is immediately necessary. Treatment of such a case with urinary antiseptics is of little value. The kidney is unable to secrete the antiseptic in sufficient concentration to be effective. In our experience, operation for removal of the stone in these patients is difficult and poorly tolerated by the patient. The kidney, which is congested and bound down by the edematous perirenal tissues, is not easy to free and expose, and seldom can the stone be removed without almost completely freeing the kidney. After several poor results from attempted ureterolithotomies in such cases, we have in recent years made every effort to dislodge the stone with ureteral catheters or bougies. The stone is simply pushed back into the pelvis and catheter drainage instituted. This can often be done under spinal anesthesia, after failure has occurred without an anesthetic. After drainage is secured, urinary antiseptics are administered, the patient carried along for a week or two, and then after the infection has subsided operation is performed under favorable circumstances. On a few occasions when the stone could not be dislodged through the bladder, we have exposed and opened the upper ureter, and by applying more direct force, been able to dislodge the stone into the pelvis. Drainage was then carried out through a catheter left in the pelvis and brought out through the incision. In a few desperately ill patients this has been a life-saving procedure. The problem is simply that of securing drainage in the least disturbing way

and not focusing one's attention too much on removal of the stone.

In dealing with stones in the upper half of the ureter, all things being equal, we lean a little more toward operative treatment than to manipulative procedure. The reasons for this are several. The upper or middle third of the ureter is more easily exposed than the lower third, and complications from operation are less frequent. Stones here are more difficult to pass with catheters. They are often pushed back into the pelvis during manipulation. Then, too, it occasionally happens that after repeated treatments the stone may lodge low in the ureter, infection intervene, and operative removal become necessary. So it has been our practice, in stones of questionable size in the upper or mid ureter, to resort to surgery somewhat earlier than in those that occur at a lower point. The presence of a catheter in the ureter at the time of operation assists considerably in locating the ureter and in immobilizing the stone. The catheter should be passed and an x-ray made definitely to locate the stone immediately before the operation is begun. Anyone who has performed many ureterolithotomies realizes how disturbing it may be to find at operation (if indeed it is found) that the object of his search has passed back into the kidney or to the lower ureter, quite out of reach through the incision that has just been made.

Ureteral calculi of large size and long duration are most often seen in the lower portion. The problem here is not how the stone should be treated, because surgery is practically always indicated, but whether or not the kidney is so far diseased as to justify nephrectomy. Unless a catheter can be passed beyond the obstruction, the functional capacity of the kidney cannot be determined with any degree of accuracy. Intravenous urograms often fail because of the low function and degree of hydronephrosis. Unless there is definite evidence that the kidney is valueless it should be saved. We have tried to pursue a conservative course with these kidneys and have been surprised to find how nearly normal some of them are, twelve months to two years after removal of the stone. When nephrectomy is done it can usually be carried out more safely by the performance of a preliminary nephrostomy. Here again drainage is the primary and urgent problem and once it has been adequately attained, nephrectomy can be more easily done with the patient in better condition to tolerate it.

When ureterolithotomy is done for long-standing stone, it is advisable to leave a large catheter in the ureter after the operation so as to safeguard its patency and prevent later stricture. Frequent dilatation is carried out for months afterwards. On two occasions we have had to perform late nephrectomies because of our failure to prevent stricture in these cases.

In dealing with ureteral stone with lone kidneys, the treatment differs little from that of normal cases. These patients usually seek urologic aid early after experiencing pain in their kidney and as a result the stone is likely to be small. Sometimes a moderate sized or large stone may produce acute obstruction at the uretero-pelvic junction and require immediate dislodgement. We have had two such cases; the stones were later removed through pyelotomy incisions. In all, we have treated twelve patients with lone kidney for ureteral calculus. Four of them have been operated upon. Surgery, of course, is resorted to more frequently in these than in the normal.

In the whole series of 700 cases there have been 98 operations, 14 per cent. This number does not include nephrectomies or nephrostomies which were made necessary as a result of stones. As stated above, our mortality has not been high and our results as a whole have been fairly satisfactory. Infection has been the most troublesome factor with which we have had to contend. We have come to feel that the early removal of the stone is not the first thing to be considered. Promotion of drainage, and reduction or prevention of infection, are of primary importance and should receive first consideration. The stone itself does not threaten the patient's life but obstruction and infection do, in many cases. So treatment carried out with the idea of combating these elements, and deferring attempts actually to remove the stone until conditions have improved, will result in less morbidity and probably less mortality.*

*This paper was one of a symposium on urinary calculus. The other papers in the symposium and the discussion will appear in subsequent issues.

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THE SURGEON AND THE GASTROSCOPE*

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Our generation has witnessed the greatest achievements in medical progress in the history of the world. A part of this scientific advancement is the production of many new instruments of precision that make for more accurate diagnosis. The hidden recesses of the body are being brought into view by these mechanical means and exploratory operations by the surgeon are slowly disappearing as diagnostic accuracy becomes more certain. The subjective method of diagnosis is being replaced by the objective method. The cystoscope, the peritoneoscope, the thoracoscope, and the gastroscope are all playing their part in this great scientific era in which we are living.

Gastroscopy as an aid in diagnosis is not new for in 1868 Kussmaul passed a long open tube into the stomach of a sword swallower and thereby was the first person to view the gastric mucosa through the mouth. This instrument of course was very crude and little could be seen but it opened a new field in diagnostic technic. In 1881, Mikulicz added lenses to an angulated tube and attached an electric light on its tip. This was a great improvement over the original instrument and more of the gastric mucosa could be clearly seen. From then until 1932 various modifications were advocated. None were satisfactory. The pylorus could be seen in less than 50 per cent of patients, much of the stomach could not be visualized at all and perforations of the esophagus and stomach were not rare complications. In 1932, the greatest advance was made when Schindler with the aid of Wolf perfected a flexible type of gastroscope.

Since the dangers of the old instrument have been removed, and since practically all of the gastric mucosa can now be clearly visualized, the value of this instrument as a diagnostic aid is rapidly becoming appreciated by the profession in general. Much has had to be learned in the interpretation of the appearances of the mucosa, as seen through the gastroscope, for here we are seeing tissue whose blood supply has not been disturbed and whose cells have not been disrupted by trauma. It is a new world that has been opened to us and the correlation between the gastroscopic picture and the pathologic findings has taken time.

The diagnosis of the various entities is much more difficult than with other types of endoscopes and at times the expert may be in doubt as to the correct interpretation of the image seen. It is a procedure that requires much study and numerous examinations to qualify oneself as an expert. With all this exaction and necessary work one cannot but be fascinated when he actually sees the peristaltic waves as they pass along the gastric mucosa, the pylorus come into view, open, close, and disappear or see the inner lining of the small intestine through a gastroenterostomy.

I feel that the gastroscope today is in the same status as the cystoscope and x-ray 25 years ago when these latter diagnostic aids were regarded by the majority of the profession as playthings and their true value not realized. Today the cystoscope is indispensable to the urologist and the x-ray is indispensable to all the specialties. Tomorrow the gastroscope will be indispensable in the diagnosis of gastric complaints. It is used much more frequently in Europe than in this country but the larger clinics in the United States are beginning to appreciate its value and to add it to their diagnostic armamentaria. The gastroscope will never replace the x-ray but will be used more frequently in conjunction with it. Each will play its part and each will have its advantages and its disadvantages. With either method a lesion may be overlooked but by a combination of both methods this oversight is less likely to occur. I do not feel that the gastroscope is infallible but with a continued improvement in the instrument the chance for error will be lessened.

There is no doubt that the greatest contribution made by the gastroscope in the study of diseases of the stomach has been made in the field of chronic gastritis. For decades there has been much discussion as to the presence of such an entity and learned scholars on the subject were varied in their opinions but now such a condition is known to exist. Gastritis often is the cause of the symptoms referable to the stomach when the primary pathological lesion is situated elsewhere. It may be the cause of continued epigastric complaints following operations upon the stomach. Renshaw[1] says that

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15-45 per cent of patients complain of some form of chronic abdominal distress and Schindler[2] that chronic gastritis is the most common cause of upper abdominal pain. Although chronic gastritis often results from a medical condition it is a frequent companion of surgical entities. In practically all cases of gastric ulcer it is present in varying degrees. The severity of the accompanying gastritis if known will influence the type of therapy to be prescribed and indicate the prognosis of the disease. Often in duodenal ulcer, though the ulcer itself is beyond the reach of the gastroscope, its presence can be suspected from the existing gastritis. Carcinoma may likewise be surrounded by an inflammatory reaction. Frequently patients suffering from chronic cholecystitis or chronic appendicitis if gastroscoped are found also to have some degree of chronic gastritis.

Hemorrhage often complicates gastritis. It may be detected only as occult blood in the stool or may be massive in its degree. The German authors believe that 10 per cent of the massive hemorrhages of the gastro-intestinal tract originate from gastritis. Though such bleeding may cause one to believe its origin to be from an ulcer, if gastroscopic study were employed the true cause would be revealed. Surgery cannot cure the hemorrhage brought about by a diffuse type of hypertrophic gastritis. Surgical intervention can be life saving if the bleeding is coming from a small area as in a peptic ulcer.

We are constantly working to find some means by which carcinoma can be diagnosed in its very early stage. When a patient has developed symptoms severe enough to cause him to consult a physician he has usually passed the stage of curability and certainly by the time he has developed the picture as presented in the textbooks metastasis has already taken place. The early symptoms of loss of weight, or loss of appetite, or unexplained anemia are as a rule of minor significance to him and when he does consult his physician the optimum time for cure has passed. If more patients presenting such apparently inconsequential complaints would consult the physician and gastroscopic examination were made, these patients would be spared the ravages of this dreaded disease. Schindler and Gold[3] are firm in their conviction that only by the gastroscope can a very early gastric malignancy be detected and that it can be detected much earlier than by the x-ray. Furthermore, they believe the gastroscope is much more accurate in diagnosing the lesion than any other method except microscopy. They say that Gutzeit, Moutier, Henning and others are not positive in this belief. Moersch and Snell[5] believe that "gastroscopy may be of definite value in establishing the nature of the lesion, and may offer valuable information as to its probable operability." These facts being true, a step forward has been made in solving some of the problems presented by gastric malignancies.

Polyps are at times overlooked by the x-ray and at times when seen in the roentgenologic study are thought to be benign though malignant changes have already taken place. Brunn and Pearl [6] believe the gastroscope is of great assistance in determining the presence and nature of these tumors.

When a patient complains of certain symptoms there are certain questions that must be correctly answered. First, has the patient a gastric ulcer, and if so is it benign or malignant? And second, after appropriate treatment has been carried out has it healed? These are vital questions for the future welfare of the patient depends on the answers. It is true that the large majority of gastric ulcers can be identified by the x-ray but there is a small percentage of cases where this lesion cannot be identified by such a study but is seen through the gastroscope. Furthermore, there is the occasional case that apparently is a benign lesion according to the roentgenologist but the gastroscope reveals its malignant nature. Schindler[4] reports cases where all evidence, even gross inspection at the operating table, pointed to benignancy but the gastroscopic study substantiated by the histological study proved the malignancy of the lesion. This is most important to the surgeon for in malignancy the operation will be much more radical than if the lesion is known to be benign. The resection will also be much more extensive if it is known that there is a considerable amount of gastritis surrounding the ulcer for unless this area is removed the patient will not be rendered symptom-free. There is also the occasional case that has been under treatment and has become symptom-free where a re-examination by the x-ray shows the ulcer niche to have disappeared and therefore the lesion thought to be healed but gastroscopy shows that the lesion has not healed. Due to edema surrounding the ulcer or a plug of mucus in the crater the barium was prevented from entering the crater and therefore

the niche was not visualized. It is important to know positively that a gastric ulcer has healed because of the possibility of a malignant change at some future date.

Problems are not always ended at the operating table but unfortunately there are times when more serious ones develop at a later date. What can be more disturbing than to have a patient return after having weathered the storm of a serious stomach operation with complaints more severe than those previously presented? Yet it is an unpleasantness which we all have to face. The gastroscope may show an improperly functioning stoma. We know that the opening must be of sufficient size and that if it opens and closes as does a normal pylorus with peristaltic action we shall have no disturbance from the anastomosis. An ulcer may be present on the margin of the anastomosis or in the attached small intestine or there may be varying degrees of chronic gastritis present. Whatever the cause the gastroscope will be of assistance in determining what further therapy should be instituted.

In conclusion, let me say that I am enthusiastic over the gastroscope but I try not to allow my zeal to run riot over its possibilities. However, I am convinced of its value and can see the important part it can play from a surgical standpoint. I realize that it has its limitations and a negative examination is not always conclusive, but if intelligently used with other methods it can be of the utmost assistance. It can help us to determine whether a surgical operation should be immediately undertaken or medical treatment should be employed first. It can determine the exact nature of the existing lesion. It can be of value in determining the operability of a cancer. It oftentimes will determine the extent of the resection necessary and it may indicate why the patient has a return of symptoms after recovery from operation. The gastroscope has shed much light on diseases of the stomach and in the future may hold much more knowledge in store.

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A FEW ITEMS OF PREVENTION IN OPHTHALMOLOGY*

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Papers that I have enjoyed most have been those on clinical subjects that have reflected the personal experience of the essayist, and it is of a few personal experiences that I am giving my impressions in this brief address. One of my functions during the last few years has been that of conducting an ophthalmic department and clinic in a medical school. Much of the time has been spent in the instruction of graduate students. It is my purpose in this paper to discuss a few matters pertaining to our clinic that have particularly interested me and as they have to do with prevention I have grouped them under this rather broad title.

I stress prevention because it is the most important field of general medicine of the future and should be of ophthalmology also. It is too easy to overlook it and think only of treatment because therein lies the immediate reward. Of the general problems of prevention in ophthalmology I shall say nothing because this subject has been discussed fully recently and is being handled very efficiently by the National Society for Prevention of Blindness, so I shall confine myself to a few special problems that ophthalmology presents.

One of these is chronic simple glaucoma. Difficult enough to handle in private practice, it is a major problem of every eye clinic. Concerning its etiology we are still in the dark. We know that small hypermetropic eyes with narrow corneas are especially prone to develop this disease and that a neurotic temperament is favorable to glaucoma. Both of these depend much on heredity so that prevention would have to include eugenic mating to lessen its dangers from these factors. At present the eugenics of mating has not been considered perhaps so carefully as it should be. We don't want to see regimentation of peoples beyond the point of reason, and probably little will be done about this factor for a long time. This forces on us,

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therefore, the necessity of early diagnosis and institution of measures to check the progress of this devastating malady, glaucoma.

It is not feasible to discuss more than a few features of prevention in glaucoma but because of changes in the handling of these patients in the clinic at Washington University such a difference has taken place in the therapeutic results that it seems worth analyzing. About twelve years ago the failure of a succession of patients with glaucoma to return to the clinic after one visit caused me to investigate the situation in regard to the efficacy of our glaucoma treatment. Accordingly a check of attendance was made covering the preceding ten years. It was desired to learn the percentage of patients who visited the clinic more than once and how long those who did return remained under observation. It was astonishing to learn that only 50 per cent returned after the first visit and only 5 per cent remained under observation for two years or more! Obviously this meant that our handling of these patients was totally inadequate because it is axiomatic that a patient with glaucoma is unsafe unless under medical observation. It may be questioned whether this clinic might have been especially inefficient, but I believe that it was at least as good as the average.

A study of the situation indicated the advisability of instituting changes in the handling of these patients. First and foremost, there was obviously a need for a trained worker to interview patients when the diagnosis was made, usually on the day of their first visit to the clinic, to talk the situation over with them, to find out their sociological and economic background, to become acquainted with them and to give all the encouragement possible and urge the necessity for the patient to continue under medical observation. In the second place it seemed best to place all of these patients in a special subdivision of the clinic where they could always be under the supervision of the same physician so that treatment would be systematic and the patients would feel that they were being cared for by some one who knew them and was especially interested in them.

A third major conclusion was that, in general, early operation was advisable because it was realized that however perfect the system it would never be 100 per cent effectual and certainly if continual observation were impossible the great majority of patients were far safer after a successful drainage operation than before. Accordingly the above changes were instituted in this clinic.

When the occasion arose for presenting a paper before this organization the opportunity seemed favorable for a review of the glaucoma situation in the same clinic during eight years of the new regime outlined above. Therefore the records of 100 successive cases of chronic simple glaucoma were withdrawn from the files for study, beginning with January 1932.

Of these 100 patients only 7 per cent failed to make more than one visit; this as compared to 50 per cent before the change of policy, and slightly more than 50 per cent as compared with 5 per cent were kept under observation for at least two years. This 50 per cent may not seem even yet so high as it should have been, but these patients were for the most part old, some had died, some had gone blind, some were unaccounted for because of change of address and could not be found to be urged to return. Of this first 100 patients, the longest under observation for seven and a half years, 34 are still coming to the clinic. Of the patients in this group who came longer than one year, 63 per cent were operated upon. Of the 34 patients in this group now attending the clinic 21, or 62 per cent have been operated upon. Of these, 8, or 38 per cent have shown a loss of one-third or more of their central visual acuity in one or both eyes, and 13, or 62 per cent have shown less than one-third loss and some no loss and some a slight increase. Obviously fewer of those not operated upon have shown losses and in general they have been less in amount than those operated upon, because if they had not been doing well and the eyes were not too far gone or something else seriously wrong with the patient, an operation would have been performed.

These findings undoubtedly leave much to be desired but do seem to vindicate the policies that have been adopted. Though the plan of follow-up cannot be used in private practice, I believe that the principal of early operation is a sound one. The great tendency is to procrastinate because the patient is not in immediate danger, but when danger becomes imminent, so much damage has been done that it is too late for operation to accomplish what it might, had it been performed earlier.

In the Washington University Clinic two operations have been used far more than others for chronic simple glaucoma, namely: corneoscleral trephining and iridencleisis. In this group of 100 patients, corneoscleral trephining was used 28 times and iridencleisis 30 times. Of the trephinations 14 were successes in that there was no material decrease of vision during the period of observation, no cases under observation for less than six months being considered, and 13 of the iridencleises were successes measured by the same standard. There were 3 failures under the definition among the trephining cases and 6 among the iridencleises. In each series there were 11 that were not sufficiently followed or were discarded from the statistics for one reason or another. That the operation might accomplish its purpose of reducing tension and there still might be a visual failure or the tension might not be reduced and vision still be unchanged, is also possible. This unsatisfactoriness of the visual standard as a determinant of the efficacy of the operation is realized but it serves fairly well as a comparison of the two methods and obviously there is little choice between the results of the two types of operation in this series. Evaluation of efficacy of operation by a record of tension might be more illuminating but in reviewing the records there was such a variability of tension at different clinic visits that it was deemed too difficult to decide which reading to select for statistical purposes. As a matter of fact, I have no conviction as to which is the better of the two operations. The outstanding defect of iridencleisis is the tendency towards hemorrhage and of corneoscleral trephining is hypotension. I have not found the former as effectual as the latter in advanced cases, but it seems equally good for early cases and the simplicity of its performance recommends it. For these reasons I am inclined to perform iridencleisis in early cases and trephinations in advanced. Occasionally I have used cyclodialysis in early cases but have usually reserved this operation for secondary glaucoma following cataract extraction.

Passing now to consideration of the prevention of blindness in another condition that has been perhaps the most discussed subject in ophthalmology in the past few years, namely, detachment of the retina, there exists an inability to avoid its occurrence similar to that in glaucoma; because one cannot by foresight escape myopia, choroiditis or trauma, factors that produce 90 per cent of detachments. Hence we are forced here also to consider in prevention methods only those that can be employed after detachment occurs. I desire especially to bring up this particular subject because of two things: first, the stimulation from a review of our surgical results over a five-year period in detachments prepared for the meeting of the American College of Surgeons in October of this year, and second, the arrival at the hospital two days before I began to write this address of a one-eyed young girl in whose only eye there was a complete detachment. She had been under observation by an ophthalmologist in another hospital since the beginning of the detachment three months previously, but he had never kept the patient in bed to permit postural rest nor prescribed pin-hole glasses to prevent rotating of the eyes. The condition, which had been rendered practically hopeless by delay and absence of treatment, would probably earlier have had at least a 50 per cent chance of cure. This patient represents only one example of a frequent occurrence.

I confess that the analysis of 97 cases operated upon in our institution, though admittedly many were unfavorable at the time of first observation, was not too encouraging, success being attained in only 42 per cent of all cases and in 51 per cent of reasonably favorable cases. But certainly it is sufficiently good to justify urging that it be tried, since without operation the situation is hopeless.

We have used most of the methods suggested and have come to depend chiefly on a thorough study of the patient and the eye and a very careful examination of the retina for a tear. If found it is accurately localized and then a double barrage of diathermy punctures, using a Lacarrére needle or thermophore cauterizations, is placed around the spot where the tear will fall back upon the choroid after producing escape of subretinal fluid and a cauterization is also made as nearly as possible at this exact spot. An incision of about three millimeters is made in the sclera with a cataract knife at the most dependent point and the wound edges are cauterized with the diathermy needle. A bilateral pad is applied for a week and then pin-hole occluders are prescribed. These are used for three months. The patient is kept in bed for three weeks if the detachment is in the upper field and for ten days if in the lower field and the macula is not involved. If no retinal tear is found the area

of greatest detachment is outlined proximally with a double barrage of coagulation points unless the history indicates definitely a detachment first in another area, for example, originally above, later below, in which case if there is any detachment persisting above this is also included in a barrage.

We have had a good percentage of cures from thermophore heating but have had two cases of serious hemorrhage. Possibly the temperature has been a little higher than necessary.

The conclusion from the foregoing is obvious. We should teach and preach as widely as possible the necessity of very early operation, within a week after detachment if it can be done, and fixation of the eyes by pin-hole glasses and rest on back while awaiting operation, especially if the detachment is in the upper field.

The orthoptic clinic is another department on which a great deal of time has been spent during the past five years. We have not worked under the most favorable conditions because we have not had adequate technicians and these are essential to real efficiency. Physicians usually cannot give the necessary time for this work. The plan of a training center for technicians is excellent and an adequate number of properly trained technicians will do more towards solving orthoptic problems than any other factor. However it may be of interest to make some comments from our experience. In the first place cases in which orthoptics is especially helpful are the abnormal phorias. As it happens these are not the cases that are usually referred to the clinic but rather the tropias, which are far less amenable to treatment. We have found abnormal retinal correspondence in most cases of strabismus and the success in converting this into normal retinal correspondence has been poor, and since this is a necessity for a complete cure of a tropia it is obvious that we are not happy over our training results. The clinic, however, serves another purpose and that is for the analysis of the type of strabismus and for arriving at a better understanding of whether an operation is indicated and the type of operation, if any, that should be employed. Also following surgery, orthoptic training has been found somewhat helpful in maintaining a good position of the eyes. This does not sound very encouraging for conducting an orthoptic clinic, but it is the actual result where undoubtedly not the maximum but at least a sincere effort has been made.

The foregoing illustrate a few of the concrete efforts in prevention of blindness in one clinic. The picture just presented looks a little dark but the subjects dealt with represent our most difficult problems. At any rate sometimes there is encouragement in hearing that our confrere has his troubles too, and learning that everything is not too simple for him either may help us to carry on.

EPISCLERITIS AND INTERSTITIAL KERATITIS FROM HYPOTHYROIDISM*

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The following cases will illustrate what I believe to be a distinct clinical entity, which, so far as I can determine, has been entirely neglected in medical literature. In all these cases a definite episcleritis was present and in some of them the deeper layers of the cornea were involved adjacent to the episcleritis. In those cases involving the cornea a grey infiltration progressed from the limbus toward the center and this was followed by blood vessels. In no cases did the cornea stain with fluorescein.

It will be noted that some of these patients had not a very low metabolic rate, but it is probable that certain individuals function better at a higher rate than that which may be considered normal for the average person. It is possible, of course, that endocrine dysfunction other than that of the thyroid may enter into this condition, but as yet our methods of determining gland functions are not well enough developed to disclose such participation, if it exists.

Case 1.—Mrs. W. H. M., aged 39, the wife of an Arkansas physician, had a deep keratitis in the inferior temporal quadrant. This patient was treated without improvement from January 11, 1933, until the middle of September of that year. Her tonsils and one bad tooth were removed. She used atropine, ethyl morphine hydrochloride and hot applications locally and took mixed treatment internally, but the infiltration continued to progress in the cornea, and this was followed by vessels from the periphery. On several occasions Mrs. M. told me that her eye was more painful during menstruation, but the significance of this did not strike me at the time. In September she consulted Dr. W. C. Chaney, who put her on cod liver oil and thyroid extract. Her

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eye began to improve immediately and was entirely well by the middle of December. Her basal metabolic rate was minus 13 per cent.

Case 2.—Mrs. K. H., aged 32, said on July 22, 1935, that her left eye had been red and painful for a few days. She had a severe episcleritis of the left eye, which surrounded the cornea except on the nasal side. Adjacent to the episcleritis the cornea was infiltrated. General examination was negative except for some trouble in the left antrum which was relieved by irrigation. She was treated with atropine, ethyl morphine hydrochloride, hot applications and foreign protein. Early in September her left eye was decidedly worse, and I recalled to mind *Case 1*. Her basal metabolic rate at that time was minus 19 per cent. She was put on thyroid extract three times daily and was much improved in six days and entirely well on October 15.

Case 3.—V. B., a well-developed 14-year-old school girl, had been under treatment from June until the middle of September, 1937, when I first saw her. Her tonsils and one tooth had been removed, and all the usual laboratory tests had been found negative. Her left cornea was infiltrated in the lower half. Her basal metabolic rate was found to be minus 12, and she was put on one-fourth grain thyroid extract three times daily. The eye was free of ciliary injection on September 27. The cornea was much less hazy a month later and was clear in January, 1938.

Case 4.—Dr. M. L. P., aged 31, a dentist, had a deep infiltration of the cornea on January 16, 1938, in the inferior temporal quadrant, which had been present three days. General examination was negative and his basal metabolic rate was minus 13. He was put on thyroid and was discharged as cured eight days later.

Case 5.—Mr. J. H. K., aged 33, was seen on May 10, 1938, with an episcleritis in the superior temporal quadrant of the right eye. He had an abscessed tooth and a spongy prostate. A week later he reported that the tooth had been removed and that his prostate was under treatment. At that time his basal metabolic rate was minus 3. There is doubt, however, as to the accuracy of this, because after taking thyroid for two weeks it was recorded at minus 14. On July 14, the rate was minus 9. When he was last seen on August 2, 1938, the eye was practically well and he was taking 3 grains of thyroid extract daily.

Case 6.—Mr. I. G. G., aged 29, was first seen on October 16, 1937, when he came for glasses. His right cornea showed scars and some vascularization from a chemical burn twelve years previously and he complained of occasional irritation of the eye. Glasses improved the vision to 20/20 minus. He was not seen again until September 26, 1938, when his cornea was infiltrated below. He was sent to his physician, who found his basal metabolic rate to be minus 24, and put him on 3 grains of thyroid extract daily. This man has not been seen since November 4, 1938, by his physician nor by me, but at that time his physician reported that the eye was well.

Case 7.—Mrs. E. A. G., aged 27, reported on December 3, 1938, that her right eye had been sore for four weeks. She had an episcleritis on the nasal side and her basal metabolic rate was minus 15. Her physician was advised to give her thyroid, and I did not see her again, but she reported by 'phone two weeks later that she was well.

Case 8.—A fat negro woman, aged 42, who was seen on December 15, 1938, reported that she had been treated at the clinic of the Memphis Eye, Ear, Nose and Throat Hospital for six months. Reference to the Clinic record confirmed this and revealed that the diagnosis was episcleritis and that her Kahn and general examination were negative. Her basal metabolic rate was minus 21 on January 6, 1939. She was given one-fourth grain of thyroid extract three times daily, and the Clinic record shows that on February 15, 1939, she was discharged as recovered.

Case 9.—Mrs. F. B., aged 44, was seen on April 14, 1939, with an episcleritis and deep keratitis of the left eye below, which had been present for one month. Her basal metabolic rate was minus 2. In spite of this she was given thyroid in addition to local treatment with atropine, ethyl morphine hydrochloride and hot applications, because the eye presented the same appearance as the others of this series. She improved very slowly until about the first of June when, simultaneously, the brand of thyroid was changed and she was given intramuscular injections of bismuth. Her improvement was rapid from this time and the eye was well early in July.

It is probable that bismuth was the curative agent in this case.

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ROENTGEN THERAPY TO THE PITUITARY GLAND IN FUNCTIONAL DISTURBANCES OF AND ASSOCIATED WITH MENSTRUATION*

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Since the advent of more accurate methods in diagnosis of endocrine deficiencies, it has been shown that many patients have been treated symptomatically by good physicians without recognition of the primary pathologic condition that exists. Clinical and experimental data obtained by endometrial biopsies, vaginal smears and hormonal assays have definitely established for the first time criteria for diagnosis and progress of treatment.[1] At the present time manifestations of deranged function in the ductless glands can be corrected in a high percentage of cases.

It seems impractical to expect the general practitioner, the internist, or even the gynecolo-

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gist to avail himself of the personnel and laboratory facilities sufficient for making the necessary tests on all patients in order to establish definitely the particular gland or glands at fault. Likewise, it seems too much to ask that all patients return as often as necessary to complete these tests and continue with frequent injections of the expensive glandular products required to correct endocrine disorders without more assurance that this treatment will be satisfactory. The facts established from the above mentioned laboratory tests have made possible more accurate diagnosis from carefully obtained histories and physical examinations. Therefore, efforts are being put forth to obtain a simpler and less expensive therapeutic agent that will accomplish this end result. It is our belief that radiation in small doses to the pituitary gland is at least a step in this direction.

Clinical and experimental investigation is constantly presenting supportive evidence for the theory that the endocrine gland most responsible for amenorrhea, oligomenorrhea, menorrhagia, irregular menstrual cycles, sterility and numerous symptoms associated with menstruation, is the pituitary gland in a state of hypofunction. The use of small dosage of radiation in the treatment of 75 cases encourages us to believe that the pituitary gland is not only the principle gland at fault, but that this type of treatment is of definite value in correcting this malfunction without producing any damage to the gland. Furthermore, this is a safe and inexpensive procedure.

The encouraging reports of Mazer and his coworkers,[2] Kaplan,[3] and many others have been most helpful in perfecting the methods of using radiant energies in this problem. The purpose of this paper is to relate some of the outstanding observations noted in the use of small dosage of radiation to the pituitary gland in selected cases of endocrine failure. It appears to be universally recognized that the pituitary gland is the motor activator of all of the glands of internal secretion. Without its proper function all of the ductless glands are depressed or stimulated in their activity. The pituitary gland cannot change the structure of the other ductless glands, but it will regulate the amount of their function and rhythmic activity by its own individual action.

Selection of Cases.—Too much care cannot be exercised in the selection of cases for this type of treatment, not because of possible injury to the individual, since the treatment results in no noticeable change in the physiology of the normal gland, but because improvement cannot be expected if no derangement in the endocrine system exists.

Each patient has received a careful clinical study before treatment. Pregnancy and organic disease must first be eliminated, and any infection discovered in this investigation carefully treated. Basal metabolic determinations are obtained in each patient and substitutional therapy instituted immediately when hypothyroid function exists.

Some of these cases have been referred to us with secondary or tertiary manifestations in other organs, the endocrine basis having been entirely overlooked. Physicians referring patients, after observing the spectacular relief obtained from this form of therapy in cases with pituitary headaches, are prone to become too optimistic and refer patients who have no endocrine basis for the headache. Careful consideration must be given to the past history of the individual, especially the menstrual history, in making a diagnosis without laboratory tests. The family history should also be taken. Wolf,[4] in his text, emphasizes the importance of heredity in malfunction of the ductless glands. Striking examples of this were noted in several of the cases studied in our series. The manifestations of hypopituitary function presented in this group of cases are listed in the order of their frequency:

(1) Headaches, associated with the menstrual cycle occurring before, during, or after the flow. These headaches most commonly affect the vertex and occipital portions, and are usually accompanied by a drawing sensation in the posterior cervical region.

(2) Disturbance of the menstrual cycle, either in rhythm, duration, or amount of flow.

(3) Nervous manifestations: (1) emotional instability; (2) irritability; (3) fear of insanity; (4) ochlophobia (inability to tolerate crowds).

(4) Breast soreness, associated with menstruation.

(5) Fatigability, associated with aching sensation in the thighs.

(6) Low basal metabolic rate.

(7) Abnormal gain in weight and distribution of fat.

(8) Impaired sexual potency.

(9) Abnormal distribution of hair.

Treatment—Though many reports appear in the literature upon the effect of small doses of radiation to both the pituitary gland and the ovaries, we have endeavored to obtain the same end result with radiation to the pituitary gland alone, because it is our opinion that the ovaries are best stimulated to normal function by increased pituitary activity. The margin of safety in radiating the pituitary gland is far greater than when radiation is applied to the pituitary gland and ovaries. However, in the hands of a skilled radiologist, either method of treatment is safe.

In addition to radiation to the pituitary gland, careful attention is given to diet with especial reference to the vitamins necessary for the function of the respective glands of internal secretion involved. The patient is also advised as to fluid intake and the amount of rest and exercise required for her particular condition. When indicated, thyroid gland in divided doses (preferably three doses per day) is prescribed. If the metabolic rate is in the low normal level, it seems worth-while to use small doses of thyroid while efforts are being made to restore pituitary function.

It appears that proper timing of these roentgen ray treatments is as important as the proper timing of the administration of glandular extracts. In cases that are not amenorrheic, we give the treatments in the first seven to 15 days after menstruation. The treatment consists of 40 to 75 r (measured in air) generated by 200 kilovolts, filter of 0.5 mm. copper plus 1 mm. aluminum, focal skin distance of 50 cm. given through two ports 6 cm. in diameter. These ports are in the temporal region, which gives the closest approach to the pituitary gland. Treatment is given to each side one day and repeated in 24 hours. Occasionally a similar amount is directed through the lower occipital region toward the pituitary gland. No further radiation is given until ten days after the next menstruation. If the case is one of amenorrhea, the patient is told to return in one month whether she menstruates or not. At the return visit she should receive treatment on two consecutive days, as before, even though she may be completely relieved of her symptoms. The next return is one month later. At this time if the patient is symptom free, no further treatment is given, but monthly progress notes are kept. In a few cases four or five such series have been administered in a year's time. Too much emphasis cannot be placed upon the pleas of Mazer, who has repeatedly warned against the use of larger doses of roentgen therapy in efforts to improve results.

If a recurrence of symptoms is noted, subsequent metabolic determinations should be obtained. In several cases a marked change in the thyroid function has taken place within a few months, necessitating change in dosage of the glandular extract, with subsequent improvement.

Wolf[4] stresses the importance of eliminating focal infections because of their harmful effect upon the ductless glands. We have been impressed with this observation and feel that it is well worth consideration in each individual. If pelvic disease amenable to treatment exists and is merely associated with the endocrine derangement, treatment to the pituitary gland is given with the usual gynecologic treatment. The restoration of normal menstruation appears to facilitate the gynecologic treatment of pelvic disease. In two cases, extremely favorable response has been noted.

At the beginning of treatment, most of these cases are very pessimistic because they have already been to several physicians, and most of them have had one or more pelvic operations intended to relieve their disorders. Many of these cases give a history of some illness, as long fever, severe infection, difficult labor, or stormy postpartum course, preceding the onset of symptoms indicative of endocrine imbalance.

Rationale of Treatment.—Very small doses of radiation upon the glands of internal secretion appear to assist the restoration of normal function. The mode of this action is not well established, but the following possibilities may be considered: (1) relief of any inflammatory changes that might be interfering with proper glandular activity; (2) the destruction of antihormonal bodies known to be produced by each endocrine gland (by eliminating the oppressive break factor of the glandular function, a normal hormonal function is facilitated); (3) increased circulation to the pituitary gland, permitting a better inflow of raw materials, as well as a better exit of the many hormones produced in the gland.

In attempting to correct endocrine disturbances by substitutional therapy, that is, the administration of glandular products now available, the treatment may not achieve the desired results for many reasons, ranging from inaccurate diagnosis, inadequate cooperation, improper timing of the administration, improper dosage,

or, as Wolf says, our total inability to stimulate, even roughly, the natural rate of secretion of gonadotropic material by the intact normal anterior pituitary gland. Therefore, it would appear that a pituitary gland that functions even one-half normally would do a better job of controlling the endocrine system than could be obtained by substitutional glandular therapy. Hence our efforts are directed toward the restoration of the patient's gland to a more normal function.

With only a few exceptions, all of these cases have received glandular therapy from two or more physicians over a period of years with the following results: slight improvement in a few; no improvement in a great majority; and exaggeration of symptoms in some.

Results.—This series is too small and the period of observation too short to arrive at definite conclusions as to the permanency of the benefits obtained. However, the cases reported by Mazer and others using radiation therapy offer encouragement as to its lasting effects.

Within two to three weeks following treatment 72 per cent of the cases were relieved of the following symptoms: pituitary headaches, menstrual disturbances, and nervous manifestations.

Of the many sterile cases in the child-bearing age, only five were desirous of becoming pregnant. In two of these conception has taken place; one delivering at term a normal infant, while the other is in the second trimester of pregnancy.

There were ten cases of amenorrhea varying from a few months to three years. All of these have had a return of menses and the largest number of treatments given any of these was three series.

Two patients were referred for treatment of painful breasts containing small tumors with a probable diagnosis of cancer. In taking their histories it was apparent from the definite derangement of their cycles that an endocrine dysfunction existed. These patients were not only relieved of breast soreness by pituitary radiation, but definite reduction in the size of the tumors occurred, and the menstrual cycle was restored to normal.

An exceptionally high percentage of cases expressed great appreciation for the relief from fatigability and aching sensation in the thighs and back.

Abnormal gain in weight was easily checked in all patients, but great reductions have not occurred except in the cases of those observing dietary restrictions and other instructions directed toward the relief of obesity.

Impaired sexual potency is the most difficult symptom to check as to incidence and improvement following treatment. However, in seven cases where this was an outstanding feature in the patient's complaint, two were completely relieved and one greatly improved.

In approximately 10 per cent of the cases there was an abnormal growth of hair over the body. To date, no noticeable change has been observed. However, it is worthy of mention that in one instance we noted a complete disappearance of hair and a partial loss of pigment in the mole on the chin of a patient.

The following case reports are briefly submitted as examples of types of cases treated and results obtained:

Case 1.—Mrs. L. A., aged 25, complaining of amenorrhea, aching sensations over the entire body, fatigue and exhaustion, presented herself for treatment on May 29, 1939. She began menstruating at the age of 13; her periods had been regular in frequency and duration until four years previously, when she became pregnant. Following delivery she bled at frequent intervals, necessitating 25 blood transfusions. The bleeding had ceased and during the preceding three years she had had no menstrual bleeding.

On June 23, which was 25 days after her first treatment, she noted some spotting, which lasted for 5 days. There was an increase in the amount of energy and general sense of well being. No further treatment was given at this time.

On July 23, she menstruated a small amount for one day.

Treatment was repeated on August 4.

On August 20, she had a six-day period with moderate flow the first three days, and a small amount the last three days. She had gained weight, had no complaints, and had obtained work for the first time in four years.

On September 5, the patient received her third treatment. At this time she was symptom-free and has remained so with regular periods since.

Case 2.—Mrs. D. B., aged 43, complaining of severe headache, oligomenorrhea, nervousness, irritability and cramping sensation, was referred for treatment on January 13, 1939.

Menstruation began at the age of 17, occurring at irregular intervals with the flow lasting from four to ten days. She noted a diminished menstrual flow, which was accompanied by the above mentioned symptoms, four years previously. At that time she received four treatments to the pituitary gland and obtained complete relief until two months previously, when all of the symptoms recurred. These symptoms became progressively more pronounced until the patient was unable to perform any useful duties.

Five days following treatment on January 13, 1939, she began menstruating normally and noted a marked diminution in her symptoms.

On March 24, 1939, she began her second period, which lasted six days. The flow was normal in amount and she had obtained complete relief from all the symptoms of which she had complained. At present the patient is symptom-free and the periods are more regular in frequency, duration and flow.

Case 3.—Mrs. H. M., aged 21, complaining of severe headaches, which began at the top of her head and radiated toward the occipital and frontal regions, presented herself for treatment on November 21, 1938. Frequently during the severe headaches the patient would develop nausea and vomiting (typical so-called sick headache) and these symptoms were always present just before and during her menses, and sometimes occurred even between periods.

The patient's first menstrual period began at the age of 11, and was always regular with a two-day flow. She had noted progressive weight gain from 165 pounds at the onset of menstruation to 238 pounds at the time treatment was instituted.

Following the first treatment of November 21, the second and third treatments were given on December 3 and 17, 1938. Shortly after the first treatment the patient was partially relieved of her headaches and after completion of the third she was totally free of all symptoms and had lost 11½ pounds since treatment was first begun.

Her periods now last seven days with a satisfactory flow. Her present weight is 200 pounds, she is free of all emotional and nervous symptoms and has had no headaches since the initial treatment. The patient's general and local condition has remarkably improved.

SUMMARY

It is now possible to make a positive diagnosis as to the gland or glands at fault in endocrine disturbances.

Data accumulated from the use of laboratory tests and clinical material present increasing evidence that the pituitary gland in a state of hypofunction is responsible for amenorrhea, oligomenorrhea, menorrhagia, irregular cycles, sterility, pituitary headaches, and many nervous symptoms associated with menstruation.

An accurate diagnosis can be made in most cases by clinical study without laboratory tests.

Attempts to correct these cases with glandular therapy require skill and experience on the part of the physician and continuous cooperation and great expenditure on the part of the patient.

The neglect of endocrinopathy had no doubt led to much needless and many times harmful operations.

Small doses of roentgen therapy properly given offer an inexpensive, safe and effective method of correcting the hypopituitary syndrome if the condition has not existed long enough to produce profound secondary and tertiary changes in other organs outside the endocrine chain.

It is apparent that proper timing of roentgen therapy in relation to the menstrual cycle is as important as proper dosage of the radiation.

In addition to roentgen therapy, attention is directed to the maintenance of thyroid function, elimination of focal infections, vitamins necessary for the glands affected, dietary restrictions as to caloric value, salt and fluid intake for proper fluid balance, amount of rest, both physical and mental, and amount of exercise required for each individual need.

The results obtained with this treatment were good and remarkably quick in 72 per cent of the 75 cases in this series.

A plea is made for early diagnosis followed by prompt treatment in order to assure correction and to avoid permanent damage to some of the ductless glands, as well as secondary and tertiary manifestations in other organs of the body.

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FUNCTIONAL AND PATHOLOGIC CHANGES IN THE ENDOMETRIUM*

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The endometrial findings in cases of functional bleeding have been reported frequently but there has been a lack of unanimity of opinion, both as to the structural basis and the causative mechanism of the changes.

Early investigators described many poorly understood pathologic conditions. The more recent investigators, who base their knowledge on developments in female endocrinology, have demonstrated the inaccuracy of the old much used term endometritis and have indicated the necessity of more exact use of the terms hyperplasia and hypoplasia of the endometrium. In the past, these terms have been used to designate the over-

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*From the Gynecological Department of Hermann Hospital.

growth of the endometrium in the follicular phase, the normal changes in the secretory phase, and in fact all types of functional abnormalities of the endometrium.

Taylor,[1] in reviewing a series of cases from the Roosevelt Hospital between the years 1925 and 1928, found that a diagnosis of hyperplastic and hypertrophic endometrium was made in 88 of the 217 cases studied; in 45 cases the endometrium was found to be normal for the phase of the cycle; in 11 cases it showed early or ectopic pregnancy; in 7 cases, polypoid endometrium, and in 2 cases, carcinoma of the body of the uterus. This corresponds fairly well to the variety of conditions to which the terms hyperplastic and hypertrophic endometrium have been applied.

Since the recognition of the nature of hyperplasia, its importance and frequent association with functional and pathologic changes in the endometrium, an extensive literature has been developed on the subject, for review of which the reader is referred to the excellent contributions of Fluhmann[2], King[3], Novak[4], Burch[5], Kotz[11], Kurzrok[12] and Wilson[13].

Comprehensive explanations of functional changes other than hyperplasia of the endometrium have recently been published by Herrell and Broders,[6] Traut and Kuder,[7] Jones,[8] and Graves[9]. These have not greatly simplified the problem. While the term hyperplasia has been strictly delimited, many different endometrial reactions have been included in the non-hyperplastic group. Much of the confusion which exists today is due to the diversified classifications which have been presented and the individual interpretations of the terminology used.

There has been divergence of opinion as to the nature of the endometrial reaction; within recent years hyperplasia has been considered as a predisposing influence in the development of cancer, probably because the hyperplasia in this instance seems to be due to an excess of estrogenic substance, and it has been demonstrated that the estrogenic substance under certain conditions may be carcinogenic. The additional fact that the estrogenic substance is chemically related to certain carcinogenic factors is suggestive. We do not mean to imply that endometrial hyperplasia is a precancerous lesion. Novak[10], in reviewing cases of adenocarcinoma of the uterus and hyperplasia, reports that in an overwhelming majority of cases the hyperplasia is a very frankly benign lesion, while a small minority reveal evidence of marked proliferative tendencies which may even simulate cancer.

We felt that a study of the problem, as we have observed it in the Gynecologic Clinic of Hermann Hospital, would offer another contribution to the literature.

This article is based on the review of 1,450 consecutive cases, during the past five years, from the gynecologic service of Hermann Hospital, in which the endometrium has been studied either following biopsy or abdominal section, or both, from which our findings have been correlated into two groups, as follows:

ENDOMETRIA OF 1,450 CONSECUTIVE GYNECOLOGIC CASES

Benign*			
Gross examination only of endometrium	254		
Microscopic examination recorded as normal or no evidence of malignancy	463	98.6%	
Detailed microscopic study benign conditions	712		
Tumors of endometrium		21	1.4%
*Misplaced endometrium, in the form of endometriosis		41	
Selected group with detailed microscopic study		733	
(A) Normal, functional	278		
(1) Proliferative, preovulatory	165		
Early	131		
Late	34		
(2) Secretory, postovulatory	113		
Early	32		
Late	81		
(B) Pathologic	455		
(1) Hypoplastic conditions	41		
(2) Benign hyperplastic conditions	389		
(a) Hyperplastic endometrium	364	389	
(b) Polypoid endometrium	12		
(c) Adenomatous polyp	13		
(3) Specific infective conditions	4		
(a) Pyogenic	3	4	
(b) Tuberculous	1		
(4) Definite neoplasms	21		
(a) Benign hydatidiform mole	3	21	
(b) Adenocarcinoma of body	18		

*Pregnancies are omitted save for the benign moles. Adenomatous polypi are by some authors considered to be benign neoplasms.

In presenting these cases for your consideration, certain explanations must be made. The total of 1450 cases includes those in which the endometrium was studied either by careful gross examination or microscopic section or both; but for our purpose frank pregnancies, and incomplete abortions are omitted. Tumors arising in pregnancies are included. Since this study confines itself to the condition of the endometrium solely, diagnoses of ovarian, tubal or myometrial lesions have not been entered. When time permits, the way is prepared for the study of other problems, but for the present endometrium occupies the center of the stage.

One must remember that in many specimens submitted for examination the major interest is elsewhere than in endometrium, and here a careful gross examination is all that is required by the most meticulous. That this should be made in all cases in which endometrium is available is obvious in view of the high incidence of malignant disease in this structure, but if endometrium is of normal thickness, smooth, and strips leaving a smooth clean surface beneath it, it can be said definitely that it is not malignant. In parenthesis it may be said that this roughening of the surface and abnormal adherence led to the detection of the case of tuberculosis of the endometrium. Fortunately, no preliminary curettement had been done in that case. We find, then, that in some of the cases endometrium examined *in situ* is not sectioned microscopically. This removes from the total a certain number.

Thus in the case of the excised uterus, the texture of mucosa and of its bed may furnish all the necessary information; it is otherwise in the study of curettings, for no matter how great the experience and skill of the operator, the texture of the uterine wall may be deceptive, nor may the curetting have been so complete as he believes. This is especially true of the uterine cornua in which endometrium often remains even after thorough curettement.

Further, in many instances the pathologist, like the clinician, is not concerned with the phase of the menstrual cycle nor indeed is this any longer a matter of concern to the patient herself. All that is needful is the assurance that there is no evidence of malignancy, and thus is the report written. Thus, in any run-of-the-mill total of cases in which endometrium is available, whether as curettings or *in situ* there are (1) a group of cases in which gross examination is adequate in the interests of the individual patient, (2) a further group in which the microscopic report is limited to a statement as to malignancy. Indeed, for many years the record "normal endometrium" was considered to be more than sufficient description, and in very many instances this is still true. However, with awakened interest in physiologic function of the endometrium, and a better understanding of this, the phases of the normal or the very slightly abnormal menstrual cycle demand attention. Can the pathologist be expected to include such a designation as a part of his routine description? Probably not, for the rapid recognition of such phases requires special training in this histology, knowledge of the menstrual interval, and of the patient's age. The division into phases, regenerative and secretory, is simple, but minor variations, of great importance to the endocrinologist, are not easily recognized nor is their importance evaluated.

From this there emerges the fact that endometrial studies are now made for two entirely different reasons: first, to determine the presence or absence of malignancy or other advanced pathologic lesion; second, to throw light on the functional difficulties of the patient, especially abnormal bleeding and sterility. That the pathologist may gain experience in physiologic-pathologic cyclic phases he should study such phases in the course of his routine study of endometrium, even in the excised uterus; but to expect this as a part of the routine report on such cases from a busy laboratory, is a counsel of perfection.

Practically, the solution would seem to be simple; undoubtedly it is becoming more and more important to determine the phase of the menstrual cycle in functional uterine bleeding and in sterility; this is especially true because the clinician now feels that he has something to offer in such cases. What he has to offer is endocrine therapy. If endometrial biopsy is a criterion for the type and efficacy of such treatment, the specimen must be dated, and the biopsy should be repeated. Would it not be well for these specimens to be segregated from the mass of operative material, and designated for special study? In the past months this proced-

ure has been followed in our clinic, and such cases are being kept available for re-study when later material is obtained from the patient and when gynecologist and pathologist together can find opportunity to review history, treatment and outcome. Meanwhile, the pathologist can increase his knowledge by similar study of his "surgical" endometrial material without the onus of making a more detailed written report.

A further word as to the proportions of normal and of abnormal conditions in the smaller "corrected" group of cases.

The grossly abnormal, the hyperplasias, the hypoplasias, the true infective endometritis cases, the tumors, have all been described with care, and are thus included in this "corrected" group. The normal includes only those cases in which the phase of the cycle is recorded; time did not permit re-study of slides in which the only report was "normal endometrium", nor does it appear that such a study would be of sufficient value to warrant the time required, since there is scant time for the adequate study of new material presenting itself. This new material is expected to be better in quality than the old. In our most recent studies we have used biopsies of the endometrium obtained by the small suction curet. The use of this instrument profitably and the interpretation of the curettings correctly requires recognition of the fact that all parts of the uterine lining and all levels of the endometrium do not partake synchronously nor in the same degree in the proliferative and secretory activity mentioned. It is only in the mucosa from high on the anterior or posterior wall of the fundus that the cytologic changes specified occur with consistent accuracy and progression. Furthermore, even in specimens from these portions of the uterus, correct interpretation can be made only from the most superficial layer of the endometrium. Diagnosis is complicated even more by the fact that the endometrium, especially in hyperplastic conditions and in the late secretory phase, is not a flat smooth tissue but lies in irregular ripples over the subjacent myometrium. The day by day changes in the epithelium of the mounds and the valleys are not always of exactly the same degree. Fortunately one can ascertain by the arrangement and number of glands at the various stages of growth, by the quality of the stroma, and by the presence or absence of the superficial covering epithelium whether one has obtained tissue from the desirable location or not.

Conclusions—Our study of 1450 consecutive cases would substantiate the general impression concerning the incidence of hyperplasia of the uterine mucosa. This study has elicited an endometrial picture which is probably common for the majority of cases reported in the many so-called functional bleeding groups. The literature, which has been carefully reviewed, indicates that the writers are not uniform in the opinion that all bleeding cases present a true hyperplasia, but in many instances hypoplastic endometrium is encountered. This is certainly true in women beyond their fortieth year.

The importance of the diagnostic value of endometrial biopsy in many conditions, particularly in the investigation of sterility in women and of the disturbances of menstruation, is stressed; also the consideration of the definite scientific value of this procedure in the study of the endometrial response to the various hormones. It is obviously a great advantage to be able to obtain endometrium for examination and study by a simple out-patient or consultation room procedure, without anesthetic, without risk, and with no real pain. Endometrial biopsy has up until recently not been employed as extensively as it might, because the methods have not been sufficiently simple and reliable, and also because the histologic value of the material obtained has been rather uncertain. With the instruments now available, difficulties of endometrial biopsy appear to have been overcome.*

*I wish to express my appreciation to Dr. V. H. Kieller, pathologist, whose valuable counsel, reports and recommendations have been incorporated in this presentation.

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THE REMOTE EFFECTS OF TOXEMIA OF PREGNANCY*

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The remote prognosis of toxemia of pregnancy has engaged the attention of numerous investigators.

Schroeder,[1] in 1878, was the first to call attention to the frequency of renal lesions following toxemia of pregnancy. Since then the investigations of Slemons,[2] Harris,[3] Sym,[4] Berman[5] and Evans[6] have confirmed and amplified Schroeder's original observations. They found the incidence of recurrent toxemia following pre-eclampsia and eclampsia to vary from 23 to 60 per cent. The incidence of chronic nephritis was 3 and 18 per cent, respectively.

Gibson[7] and Kellogg[8] seem to have been the first to propose the term "recurrent toxemia." They suggested that it may be a manifestation of a faulty renal balance which permitted the patient to live without vascular renal manifestations when not pregnant, but when the stress of pregnancy was added renal insufficiency developed.

Young[9] is of the opinion that patients in whom successive pregnancies are complicated by toxemia are merely susceptible to toxemia, and there is no evidence that the tendency to recurrence is due to persistent renal damage.

Gibberd[10] disagrees with Young and believes that the phenomenon of recurrence is due to a renal damage as well as to the toxemic element.

Peckham and Stout,[11] in a series of 343 cases of non-convulsive toxemia, found the incidence of chronic nephritis to be 40 per cent. Many of their patients, however, had a frank nephritis before pregnancy.

Döderlein,[12] Bell,[13] Schultz,[14] Rucker,[15] Teel and Reid,[16] on the other hand, are of the opinion that chronic nephritis is an exceedingly rare complication.

Browne and Dodds[17] and Heynemann,[18] in a large series of preeclamptic and eclamptic toxemias, could not demonstrate chronic nephritis in any case, but found the rate of recurrent toxemia to be 50 to 60 per cent.

Corwin and Herrick[19] and Herrick and Tillman[20] stressed the importance of vascular rather than renal injury and emphasized the part played by pregnancy in unmasking a latent hypertension and in aggravating a hypertension already present. It is probable that pregnancy reveals rather than causes the disease.

Dieckman and Brown[21-22] are of the opinion that true preeclampsia and eclampsia do not cause permanent vascular renal damage, but subsequent pregnancies will be complicated by a recurrent toxemia in 50 and 40 per cent, respectively. The tendency to recurrent toxemia, they believe, is due not only to a predisposition to hypertensive arterial disease, but to changes brought on by pregnancy together with emotional stress.

There is no doubt from the previous investigations that the occurrence of toxemia of late pregnancy predisposes to a recurrence in a subsequent pregnancy. The relation, however, between toxemia of pregnancy and "chronic nephritis" is, at present, rather obscure. Formerly it was assumed that hypertension following toxemia was due to "chronic nephritis," but pathologic and clinical evidence shows that in all probability these patients are suffering from hypertensive vascular disease or vascular renal disease,[23-24] the latter term to be used only where there is evidence of renal involvement. Whether or not toxemia can cause nephritis must remain undecided; the present evidence is that this is possible, but that it is not nearly so common as was formerly thought and in most cases it would appear that the nephritic syndrome antedated the toxic pregnancy.

Nevertheless, one cannot but be impressed by the almost general agreement that has been reached with regard to two main clinical facts:

First, that the late toxemias of pregnancy frequently recur with subsequent pregnancies.

Second, that late toxemias of pregnancy sometimes give rise to chronic vascular renal damage with emphasis on the vascular system.

Evidence was presented in a previous communication[25] to determine the rate of recurrence of the toxemias and the development of chronic vascular renal damage in subsequent pregnancies. In this paper further evidence is presented to substantiate our previous findings.

METHOD OF INVESTIGATION

Our object was: first, to establish data on a group of pregnant women to determine in general the percentage of recurrence of toxemia in subsequent pregnancies as a basis of discussion.

Second, to make an intensive study of a smaller group of women selected from the patients adjudged toxic by current standards in order to ascertain whether there is a temporary or permanent vascular renal damage and what the prognosis is for the future pregnancies.

Third, to attempt to evaluate the factors present in an individual case, which would lead one to conclude that, on the one hand, it was probable that permanent vascular renal damage would result or recurrent toxemia appear: or, on the

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other hand, that there is no special tendency to such a complication.

In studying the late toxemias of pregnancy one is impressed by the fact that there is little agreement concerning their proper classification. In this study every case with a systolic blood pressure of 140 millimeters of mercury and a diastolic pressure of 90 millimeters of mercury or over, with albuminuria, has been regarded as toxemia. All had many symptoms in common; headaches, visual disturbances, vertigo, hypertension, albumin, edema, and retinal changes with or without convulsions.

The criteria used in classifying the cases of chronic vascular renal disease were: hypertension, albuminuria or edema, with or without extensive retinal vessel changes, occurring between pregnancies or before the seventh month of pregnancy, in multiparae usually past twenty-five years of age. Differentiation depended more on the severity and time of appearance of symptoms than on mere appearance.

The history of each patient has been investigated in order to ascertain the presence or absence of any previous toxemia, infection or renal involvement which may have had a bearing on their future health.

MATERIAL FOR INVESTIGATION

During the 12½ years under consideration (January 1, 1927 to July 1, 1939), 9,529 patients were delivered on the obstetrical service of the Nashville General Hospital. Of these, 829 were classified as toxemias of pregnancy, an incidence of 8.7 per cent. Seven hundred twenty-two, or 7.6 per cent, were cases of non-convulsive toxemia. One hundred and seven, or 1.1 per cent, were cases of convulsive toxemia.

As this paper is primarily concerned with the significance of recurrent toxemia and the development of permanent vascular renal damage resulting therefrom, we have included only those cases which have had a pregnancy following their first toxemia, and inasmuch as our present renal function tests are of very little value in detecting renal insufficiency, many of us will agree that the only satisfactory test seems to be the behavior of the patient in a subsequent pregnancy.

This then reduces the available number of toxemias from 829 to 107 cases. These 107 cases have been divided into two well known groups, non-convulsive and convulsive toxemia.

NON-CONVULSIVE TOXEMIA

The cases investigated have been drawn from 722 patients who have suffered from non-convulsive toxemia of pregnancy. Seventy of these patients returned with a subsequent pregnancy from one to twelve years following their first toxemia. It has been possible to follow them in 295 gestations. These cases have been divided into three groups, based entirely on the end results.

(1) Group 1 includes all cases with recurrent toxemia in their succeeding pregnancies.

(2) Group 2 includes all cases without toxemia in their succeeding pregnancies.

(3) Group 3 includes all patients who developed permanent vascular renal disease.

GROUP 1

RECURRENT TOXEMIA

Forty-three patients, or 61.4 per cent, had a recurrence of toxemia with one or more gestations which varied from mild to the most severe type. ***Chart 1*** shows the obstetrical history of these patients in 198 gestations, two or more of which were toxemic. There were no signs of permanent vascular renal disease in the intervals between pregnancies. Here, then, is a group of patients who having had one toxemic pregnancy, are particularly susceptible to a recurrent toxemia with almost every subsequent pregnancy.

GROUP 2

NO RECURRENCE

Eighteen, or 25.7 per cent, of the 70 patients had twenty-two subsequent normal gestations without any recurrence of toxemia. Here, then is a group of patients who had had one toxemia of pregnancy and were not in any way predisposed to a recurrent toxemia.

GROUP 3

CHRONIC VASCULAR RENAL DISEASE

Nine, or one in every eight of the 70 patients developed chronic vascular renal disease. In one case nephritis was detected after the first pregnancy; in three cases after the second pregnancy; in five cases after the third pregnancy. In the interval between pregnancies 75 per cent showed some evidence of permanent renal damage, as persistent high blood pressures, albuminuria, and changes in the fundus oculi. A patient in this group died one year after her last gestation.

CONVULSIVE TOXEMIA

A similar investigation was made of 107 patients who had eclampsia. Six of these died. Of the remaining 101 patients, 37 returned with a subsequent pregnancy from one to twelve years after the first attack of eclampsia. Twenty-seven patients had eclampsia with their first gestation; five with the second; one with the third; one with the fourth; two with the fifth and one with the eleventh gestation.

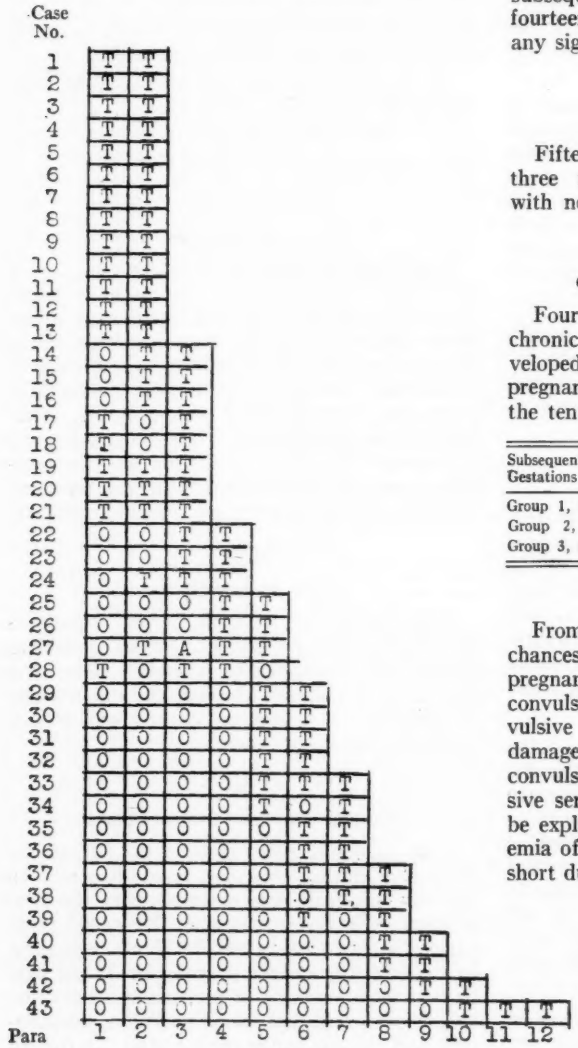
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Chart 1

Preeclampsia. Recurrent toxemia, 43 or 61.4 per cent.

These thirty-seven patients, after the first attack of eclampsia, had fifty-six gestations. These have been divided into three groups according to the end results: recurrent toxemia, no recurrence, and the development of chronic vascular renal disease.

GROUP 1

RECURRENT TOXEMIA

Eighteen of the 37 eclamptic patients had 22 subsequent gestations. Four had eclampsia and fourteen had preeclampsia. All were free from any signs of toxemia between pregnancies.

GROUP 2

NO RECURRENCE

Fifteen patients, or 40.5 per cent, had twenty-three normal gestations following eclampsia, with no recurrence of toxemia.

GROUP 3

CHRONIC VASCULAR RENAL DISEASE

Four patients, or 10.8 per cent, developed chronic vascular renal disease. Two patients developed vascular renal disease after the first pregnancy, one after the second and one after the tenth.

Subsequent Gestations	Preeclampsia Number	Preeclampsia Per Cent	Eclampsia Number	Eclampsia Per Cent
Group 1, toxemia	43	61.4	18	48.6
Group 2, normal	18	25.7	15	40.5
Group 3, chr. vas. renal	9	12.8	4	10.8

Table 1

From this investigation it is seen that the chances that toxemia will recur in a subsequent pregnancy are great: 61.4 per cent in the non-convulsive series and 48.6 per cent in the convulsive toxemia series. Chronic vascular renal damage occurred in 12 per cent in the non-convulsive series and 10 per cent in the convulsive series. Probably this slight difference can be explained by the fact that although the toxemia of eclampsia is often severe it is usually of short duration. This will be referred to in more detail under the discussion of the duration of the toxemia and its effects on the development of sequelae.

In the investigation of 70 cases of non-convulsive and 37 cases of convulsive toxemia it is shown that a previous toxemia may affect a patient in one of three ways:

Case No.	Para 1	2	3	4	5	6	7	8
1	T	0						
2	T	0						
3	T	0						
4	T	0						
5	T	0						
6	T	0						
7	T	0						
8	T	0						
9	T	0						
10	T	0						
11	T	0						
12	T	0	0					
13	T	0	0					
14	0	T	0					
15	0	T	0					
16	T	0	0	0				
17	0	0	0	T	0			
18	0	0	0	0	0	0	T	0

Chart 2

Preeclampsia. Normal, 18 or 25.7 per cent.

Case No.	Para 1	2	3	4	5	6	7	8	9	10	11
1	T	V.R.									
2	V.R.	V.R.									
3	T	V.R.	V.R.								
4	1	T	V.R.	V.R.							
5	1	2	T	V.R.	V.R.						
6	1	2	3	T	V.R.						
7	1	2	3	4	T	V.R.					
8	1	2	3	4	5	T	V.R.				
9	1	2	3	4	5	6	7	8	9	T.	V.R.

Chart 3

Preeclampsia. Chronic vascular renal disease, 9 or 12.8 per cent.

First, it may be followed by more or less habitual recurrence of the toxemia with subsequent pregnancies, with apparently good health in the interval between pregnancies.

Second, it may leave the patient entirely normal and not in any way predisposed to recurrence with subsequent gestations.

Third, it may sometimes give rise to permanent vascular renal disease.

This brings us to the third object of this paper. Is it possible to give a prognosis during the toxemic pregnancy whether the patient will be predisposed to a recurrent toxemia, permanent vascular renal disease, or whether she will be free of any special tendency to such complications?

In searching for means of differentiating the cases of toxemia which will be followed by permanent renal injury from those in which no sequelae occur, it seemed possible that we might gain more information by an inquiry into the patient's age, parity, duration and severity of the toxemia, the height of the blood pressure and the presence or absence of albuminuria both on discharge from the hospital and eight weeks postpartum. One would expect that knowledge of these factors would be of value in foretelling which patients would develop sequelae.

In an attempt to answer these questions, comparisons have been made between the toxemic pregnancies of groups 1, 2 and 3.

The age of the patient at the time of delivery shows that the mean age of the permanent vascular renal disease group in the non-convulsive series exceeded by ten years the age of those who later were found to be normal. Ninety per cent of the permanent vascular renal disease group were over twenty-five years, and only two were under twenty-five years.

Conversely, 71 per cent of the recurrent toxemia group were under twenty-five, and only fourteen, or 29 per cent, were over thirty years of age. The mean age of the recurrent toxemia group exceeded by four years the age of those who did not have a recurrence.

The mean age of the permanent vascular renal disease group in the convulsive series exceeded by eight years the age of those who later were found to be normal. Seventy-five per cent of the permanent vascular renal disease group were over twenty-five years old, and one was fifty-three years old. The mean age of the permanent vascular renal disease group exceeded by six years the age of those who developed a recurrent toxemia.

Twenty-nine, or 86.5 per cent, of the recurrent toxemia group were under twenty-six years of age and only four, or 13.5 per cent, were over thirty years old.

COMPARISON OF AGE

	Non-convulsive			Convulsive		
	Average Age	Youngest	Oldest	Average Age	Youngest	Oldest
Group 1, recurrent	25.6	18	43	22.8	16	34
Group 2, normal	21.8	15	37	20.8	13	34
Group 3, chronic vascular renal	31.4	18	48	28.5	17	53

Table 2

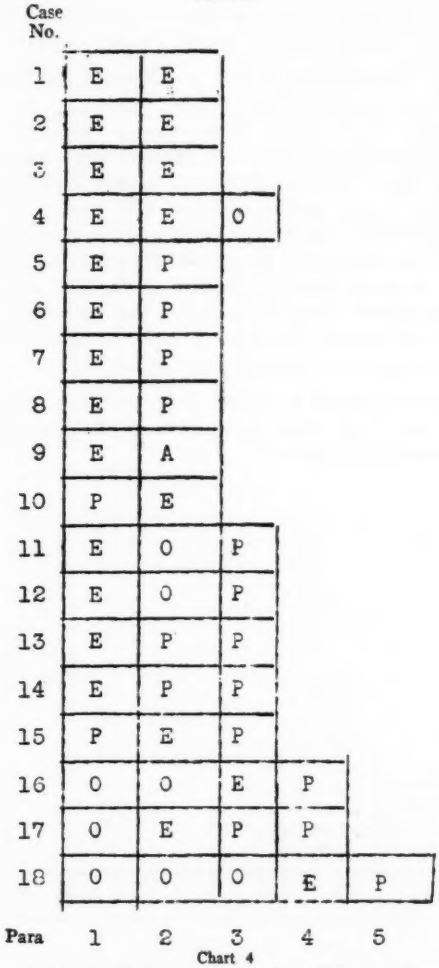

Chart 4

Eclampsia. Recurrent toxemia, 18 or 48.6 per cent. A total of 49 gestations.

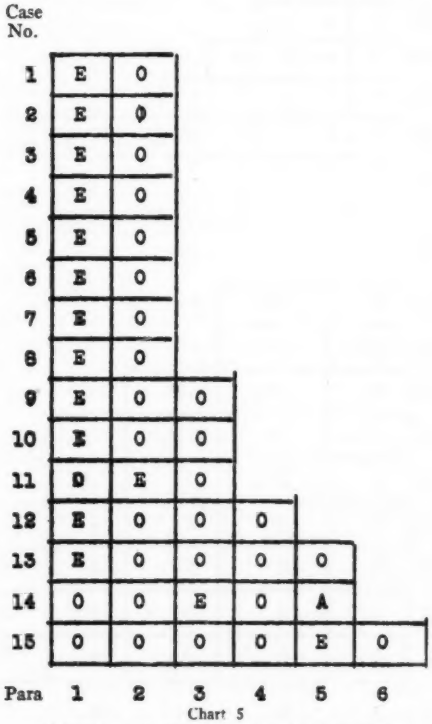

Chart 5

Eclampsia. No recurrence, 15 or 40.5 per cent. A total of 45 gestations.

PARITY

What happened to these patients as they increased in parity? When investigating the parity of the patients in the non-convulsive series it was found, as with the age, as the parity increased the chances of developing permanent vascular renal disease was markedly influenced. A strain on the organism is undoubtedly present with each pregnancy and increases as the patient grows older.

PARITY
NON-CONVULSIVE TOXEMIA

	Recurrent Toxemia		Normal		Permanent Vascular Renal Disease		
Para	No.	Per Cent	No.	Per Cent	No.	Per Cent	Total
2 to 3	22	51.2	14	77.7	3	33.3	39
4 to 6	11	25.5	2	11.1	4	44.4	17
7 to 12	10	23.2	2	11.1	2	22.2	14
Total	43	99.9	18	99.9	9	99.9	70

Table 3

It appears, therefore, that with increasing parity there is a rise in the incidence of permanent vascular renal disease, and a decrease in the recurrent toxemia and normal groups. This is quite evident until the parity increases more than seven when it is of less significance, due, no doubt, to the number of women practicing contraception or permitting sterilization.

DURATION OF TOXEMIA

In every instance an attempt was made to obtain an accurate history as to how long before delivery symptoms of toxemia had persisted. It is reasonable to suppose that prolonged and severe spasm of the arterioles, as indicated by marked hypertension and marked albuminuria of considerable duration, should produce more permanent renal damage than transient or mild toxemia. Whether a brief, severe eclampsia produces as much vascular damage as a prolonged non-convulsive toxemia with marked hypertension for many weeks seems to be doubtful.

In the recurrent group it was found that the patients had usually been under observation for some time before symptoms appeared. Our study reveals that in only seven per cent of the recurrent group did these signs become manifest before the seventh month, while more than 66 per cent of the women who later showed permanent vascular renal disease were abnormal when first seen. We do not know exactly when the break occurred, but we can state fairly well that in over 66 per cent of these, abnormal signs were present before the eighth month. However, 34 per cent of the women who later developed permanent vascular renal disease showed signs only after the eighth month of pregnancy.

Analysis of the highest blood pressure during pregnancy showed that the mean systolic and diastolic readings were definitely higher in the permanent vascular renal disease group. In only five per cent of the recurrent toxemia group did the systolic pressure reach 180 millimeters of mercury or more, while that figure was attained in over 75 per cent of the permanent vascular renal disease group. However, when the blood pressure at no time exceeded 150 millimeters of mercury, only two cases of permanent vascular renal disease developed. Furthermore, a diastolic pressure above 120 millimeters of mercury seems to indicate permanent vascular renal disease.

THE HEIGHT OF THE BLOOD PRESSURE AND ALBUMINURIA ON DISCHARGE FROM THE HOSPITAL

The mean blood pressure in the permanent vascular renal disease was higher than in the recurrent group, being 150/110 in the former, and 120/75 in the latter. However, 30 per cent

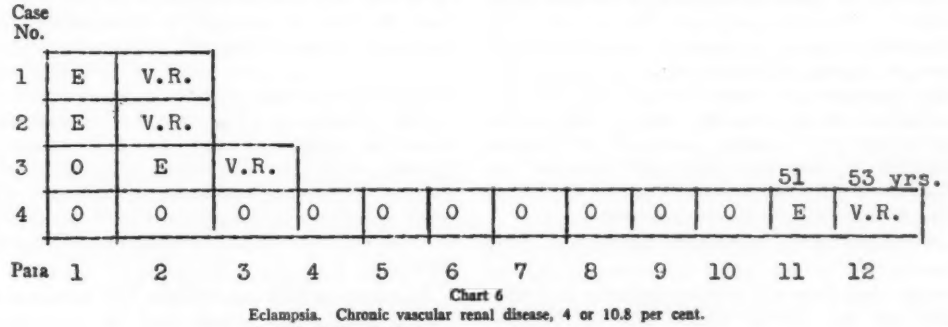

Chart 6

Eclampsia. Chronic vascular renal disease, 4 or 10.8 per cent.
A total of 19 gestations.

of the permanent vascular renal disease group left the hospital with a systolic blood pressure below 150/110 which seems to emphasize the effect of rest in bed in many cases of permanent vascular renal disease.

In regard to albuminuria on discharge, its presence or absence does not justify a prognosis as the ultimate effect of the toxemic process. However, 66 per cent of the patients who developed permanent vascular renal disease had albuminuria on discharge, whereas, only 33 per cent of the recurrent toxemia and normal groups were similarly affected.

Approximately 90 per cent of the women under discussion returned to the postpartum clinic for examination six to eight weeks after delivery, at which time the blood pressure was taken and the urine examined for albumin. Seventy-eight per cent of the patients with recurrent toxemia had normal blood pressure and urine. However, 22 per cent showed an elevated blood pressure of 140 millimeters of mercury or over and a slight trace of albumin. In the permanent vascular renal disease group all showed an elevated blood pressure of 140/90 or over with evidence of albumin of more than a trace at this time.

From these investigations of the factors that may influence the ultimate prognosis in the nonconvulsive series it appears that probably the best criteria would be:

First, the duration and severity of the toxemia. The longer it persists the more likely is it to cause permanent renal damage, and to recur in a subsequent pregnancy.

Second, the degree of hypertension together with the age and parity may be of equal value.

This is of special interest in the management of preeclamptic toxemia, as many patients with this complication are brought to the hospital, kept at rest, placed on a restricted diet, and subjected to methods supposed to promote elimination. If urgent symptoms do not arise, the treatment, in many instances, is persisted in until term is reached and labor occurs spontaneously. Such treatment, no doubt, results in a low maternal and fetal mortality, but in view of our investigation it seems pertinent to inquire whether we may not seriously increase the chances of permanent renal injury by allowing the pregnancy to continue too long.

However, in the convulsive series these same factors are of less value in distinguishing between cases that will develop sequelae and cases that will not, for the reason that the duration and severity of toxemia in eclampsia is relatively short. The symptoms had persisted less than two weeks in groups 1 and 2, and six weeks in the permanent vascular renal disease group. And, again, eclampsia is more common in the young primipara.

All blood pressures were normal and albumin absent on discharge from the hospital and it remained so six weeks postpartum, except in the four patients who developed permanent vascular renal disease.

The facts seem to indicate that the degree of involvement of the cardiovascular renal system is directly related to the interval over which it is exposed to the toxemia of an abnormal pregnancy. If renal damage is absent, and if the patient does not become pregnant, she may remain in good health, but the toxemia may recur in a future pregnancy.

COMMENT

It has been shown that the recurrence of toxemia is more frequent after preeclampsia than eclampsia. If the two series are taken together, over 50 per cent of the subsequent pregnancies are complicated by a late toxemia. There is no evidence that this tendency to recurrence is directly or indirectly dependent on a permanent renal damage since most of these patients appeared healthy in the interval between pregnancies. The prognosis for a woman who has suffered from eclampsia, in so far as childbearing is concerned, is better than that for a woman with preeclampsia.

Permanent vascular renal disease was found in 12 per cent of the cases. One in every eight traced patients, who suffered from a previous toxemia of pregnancy, developed permanent renal damage. There is evidence that this may be the result of the toxemia.

It seems to me that the practical lesson to be drawn from an investigation of this type is that the risk of toxemia in subsequent pregnancies is so great that all such women should be warned of the importance of placing themselves under medical supervision as soon as they suspect pregnancy. The incidence of eclampsia would be greatly reduced; the mild forms of toxemia would be discovered and dealt with earlier. A precise knowledge of the time and mode of onset of a toxemia would be invaluable in evaluating the danger of continuing the pregnancy.

In adopting such an attitude it is conceivable that a great many women may be saved from developing cardiovascular renal disease at an

early age, with possible postponement for a great many years. Thus, much can be done to safeguard life and health by emphasizing the imperative need of antenatal care if the major risks are to be avoided. The necessity for explaining these facts is all the greater because of the rapid recovery which usually follows one attack and which often gives the patient a false sense of security. The patient who has already suffered from several toxemic pregnancies should be the object of special antenatal supervision in the event of future pregnancies.

The next point we have to consider is the advice to be given in regard to contraception. So great is the risk run by a woman with this predisposition that the matter of contraception may be considered as arising in practically all cases. Personally, I believe it should be a rule that no woman should be exposed to further risk if she has had two or more toxic pregnancies, for the risks of future recurrence increases with each succeeding pregnancy.

SUMMARY

Out of this investigation certain conclusions may be drawn.

(1) Seventy cases of non-convulsive and thirty-seven cases of convulsive toxemia have been followed in subsequent gestations for from one to twelve years.

(2) There were seventy patients in the non-convulsive series. Of these, forty-three, or 61.4 per cent, developed recurrent toxemia.

Eighteen, or 25.7 per cent, had no ill effects following the toxemia.

Nine, or 12.8 per cent, developed permanent vascular renal disease.

(3) Of the thirty-seven patients in the convulsive series, eighteen, or 48.6 per cent, developed recurrent toxemia.

Fifteen, or 40.5 per cent, had no ill effects following the toxemia.

Four, or 10.8 per cent, developed permanent vascular renal disease.

(4) The duration and severity of the toxemia before the birth of the child seems to be an important factor in the development of permanent vascular renal disease. The age, parity and the degree of hypertension may be of equal importance. However, these factors play a minor role in the convulsive group.

(5) Recurrent toxemia may appear in the absence of any detectable sign of renal impairment.

(6) The prognosis seems to be more favorable in the convulsive group, if the patient survives the initial toxemia.

(7) All patients who have had late toxemia of pregnancy of any degree should be instructed to report for antenatal care as soon as pregnancy is suspected.

(8) Long continued observation of the post toxemic patient is necessary for an accurate classification of the toxemia, for an accurate ultimate prognosis and for an effective guide to treatment in future pregnancies.

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INDUCTION OF LABOR*

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Some method whereby labor may be induced when advisable is an accepted necessity in obstetrical practice. Formerly, measures to stimulate labor were employed only for abortions. With succeeding years, however, the indications for the induction of labor have constantly been extended, until at the present time they include a variety of conditions which may be encountered throughout the period of gestation. Ac-

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cording to Caldwell,[1] these indications are as follows:

"(A) To save the mother's life:
- (1) Toxemia of pregnancy
- (2) Kidney insufficiency
- (3) Cardiac insufficiency
- (4) Essential hypertension
- (5) Tuberculosis
- (6) Diseases of the blood and blood-forming organs
- (7) Diseases of glands of internal secretions
- (8) Occasional diseases of the nervous system and special senses

(B) Diseases of the ovum
- (1) Early rupture of the membranes with and without prolapse of the cord
- (2) Placenta previa
- (3) Accidental hemorrhage
- (4) Hydramnion
- (5) Habitual death of the fetus
- (6) Death of the ovum with symptoms
- (7) Malpositions, including breech

(C) Disproportion
- (1) Postmaturity and history of oversized baby
- (2) Moderate contracted pelvis
- (3) Absolute contracted pelvis

(D) Debatable indications
- (1) Exaggerated Braxton-Hicks contractions
- (2) Discomfort of mother from normal pregnancy
- (3) Fear of rapid, unattended labor
- (4) Patient's or doctor's convenience (not advocated)"

To this group we would add one more indication, which permits a more generous use of labor induction, namely, pregnancy at term.

The methods of inducing labor are of two major types: mechanical and medicinal, each of which has distinct applications. The mechanical methods include dilatation and packing of the cervix, the use of bags and bougies, accouchement forcé, vaginal cesarean section, and Dührssen's incisions. The choice of these procedures should be based upon a true evaluation of the indications in the individual case; faulty judgment may lead to serious consequences.

Dilatation and packing of the cervix often results in failure, necessitating the use of more extensive means to facilitate labor. Bag induction not infrequently involves podalic version and extraction, which, in an untried pelvis, increases the danger of fetal mortality. Invasion of the uterus, moreover, is likely to prolong the patient's convalescence. The use of a bougie, originally recommended by Krause,[2] has so often been followed by infection at the site of the bougie tract that this method has fallen into considerable disrepute. Accouchement forcé through the forcible dilatation of the cervix increases the hazard of cervical lacerations and consequent hemorrhage and infection. The method of Harris is more suitable than the old accouchement forcé and is far better than the use of mechanical dilators. We have found the Harris method less traumatizing when labor has advanced sufficiently to produce complete effacement and partial dilatation of the cervix. Vaginal cesarean section should be employed only under special circumstances; before resorting to such measures, one should be thoroughly familiar with these circumstances and should be assured, from close observation of the patient, that they exist.

For the induction of labor at term, we find medicinal agents far more advantageous than mechanical measures. The administration of quinine, castor oil and pituitrin, according to the routine suggested by Watson[2] or some variation thereof, is the most popular of current methods. We have found 9 to 12 grains of quinine in divided doses to be adequate. Posterior pituitary extract is usually given in three injections, consisting of not more than 3 minims each. Since these drugs are not without danger, the dosage should be judiciously prescribed and the patient should be kept under constant observation during the course of induction. Particularly is this true when posterior pituitary extract is given; a single dose of 3 minims will often result in tetany of the uterus. The intranasal administration of pituitary extract, which was for a time widely acclaimed, has now been almost wholly discontinued, the majority of physicians having resumed the older method of hypodermic injection.

Cambon and Plasse[3] have endeavored to induce labor by the use of estrin. Injections of 10,000 units were given daily over a period of three days, and were supplemented, if necessary, by quinine and pituitary extract. The response to this treatment was favorable in only 5 of 21 cases. Streit[3] succeeded in stimulating labor in 15 of 23 patients by intramuscular injections

of 1 c. c. of estrin benzoate, 100,000 to 250,000 international units per 1 c. c. Here, again, quinine and pituitary extract were given. These experiments, although interesting, are too limited to permit a conclusive estimate of the effectiveness of estrin in inducing labor.

Rupture of the amniotic sac, as recommended by Slemons[2] in 1928, is now being widely advocated as an aid to medicinal agents. Many obstetricians contend that rupture of the sac should be considered only in selected cases. The report of the Committee on Induction of Labor,[4] however, showed that medicinal measures and rupture of the sac were followed by labor in 97.5 per cent of 649 cases. In our opinion, the induction of labor should first be attempted by medical means, and rupture of the amniotic sac should be reserved for those cases wherein the state of the cervix, the engagement of the presenting part, and the urgent need for induction justify the procedure.

The induction of labor by either mechanical or medicinal methods is not to be undertaken indiscriminately. Mechanical stimulation should be attempted only in selected cases, after a careful consideration of all the factors involved. This method has its widest application during the second trimester of pregnancy, medicinal agents at that time being of little avail.

We have found the medicinal induction of labor particularly successful in normal patients at term who present 50 per cent or more effacement and moderate dilatation of the cervix. Patients who are toxic also react readily to medicinal agents. In others, the response is less rapid, often necessitating two or more courses of induction. Unfortunately, it is in patients who most urgently need stimulation of labor that the greatest difficulty is encountered. Not all patients, however, require the use of stimulative measures. In the large majority, labor will begin spontaneously if interference is withheld.

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THE USE OF CYCLOPROPANE IN THE WISCONSIN GENERAL HOSPITAL DURING THE PAST YEAR*

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It is with considerable hesitation that a discussion of this sort is offered. The use of any agent or technic in anesthesia and surgery is purely a local affair in any medical center or hospital. It is influenced by many factors. Of primary importance is the class or physical state of patients encountered; individuals with financial means are by and large in a better physical state than charity patients. Some surgeons do their best work under conditions that require more muscular relaxation than others. Customs and fashions vary widely in that in some locations injection anesthesia is the vogue; whereas in others the inhalation technic is more desirable. Some situations allow for the use of more expensive materials and equipment. Last but not least, the ability of the individual administering the anesthetic largely either limits or provides for the use of any agent or technic.

As local conditions definitely determine the anesthesia practices in a given situation, any inference or suggestion that cyclopropane ought to be used in all clinics in the manner to be described is far from the writer's thoughts. This is merely a presentation concerning the use to which it has been put recently in one locality.

The following data are partially based on the annual report of the anesthesia department of the Wisconsin General Hospital for the year 1938. As ten months have elapsed since this material was compiled, various changes have been made in the use of cyclopropane. These changes have been incorporated in the material presented. The facts were obtained through the use of the Hollerith punch card system.[1] The method of classification is that which has been prepared by the Committee on Records of the American Society of Anesthetists.

During 1938, out of 4668 anesthetic administrations conducted by the department, slightly less than 50 per cent were done with cyclopro-

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pane. This is within ½ per cent of the previous two years and will apparently hold for the present year. This agent was employed in 59 per cent of the instances where inhalation anesthesia was used. This percentage also compared within ½ per cent of the previous two years. It suffices to say that this agent has been and is still being used for all types of surgical procedures.

Whereas we definitely feel that there are extremely few absolute indications or contraindications for the choice of any anesthetic agent or technic, provided the administrator is capable and knows what he is about, there are certain advantages and certain limitations which make for a wise choice. Some of these will be mentioned in the case of cyclopropane.

SURGICAL PROCEDURES

Intracranial.—Of 59 operations in this group, only 3 were done with cyclopropane, while 25 were done with ether, and 28 were accomplished with either nitrous oxide or avertin with amylene hydrate, or a combination of the two. Since January 1939, we have favored the last named combination largely because of the absence of fire hazard (the electro-surgical unit is used with few exceptions in these operations).

Neck.—This group includes operations on the thyroid gland, removal of cysts and lymph nodes, tracheotomy, cervical sympathectomy, *etc.* Of 138 surgical procedures on the thyroid gland, only 13 were done with cyclopropane while in 107 instances, nitrous oxide was used. This was due to the fact that we prefer to use an inhalation anesthetic agent and still keep the laryngeal reflex active. This is done to enable us, by noting the presence of laryngeal irritation, to inform the surgeon when his dissection approaches the recurrent laryngeal nerve. It is much more difficult, technically, in this operation to maintain a light plane of anesthesia with cyclopropane at all times; while with nitrous oxide deep anesthesia is impossible without oxygen lack. Of the remaining 56 procedures in this group, 19 were done with cyclopropane.

Head, and Ear, Nose and Throat.—This group includes plastic operations on the scalp, face, nose, lip, palate, jaw, and tongue, intranasal surgery, mastoidectomy, tonsillectomy and adenoidectomy, bronchoscopy, esophagoscopy and gastroscopy. Of the 376 surgical procedures, 295 were done with ether while cyclopropane was used for only 28. Cyclopropane was not used more frequently in this group for two main reasons. In the first place the majority of the patients for these operations were anesthetized by the use of the semi-open or insufflation technic. This technic precludes the extensive use of cyclopropane because of the expense involved. In the second place, bleeding or oozing is difficult to control without the use of some local vasoconstricting agent. Epinephrine is most commonly used for this purpose in our clinic. According to recent laboratory investigations when a sympathomimetic amine will possibly be employed during the course of an operation which requires the use of a potent inhalation agent, ether is the wisest choice.[2-3]

Dental.—The vast majority of dental surgery is accomplished by procaine infiltration or block anesthesia. Inhalation anesthesia by the endotracheal technic is used for all major dental operations such as complete extractions, removal of multiple impacted molars, and wiring of fractured jaws. In 48 instances, cyclopropane was used, while ether was used in 33.

Eye.—Many operations upon the eye are performed under instillation or infiltration anesthesia. When general anesthesia is necessary due to lack of cooperation on the part of the patient or for other reasons, avertin with amylene hydrate administered rectally is usually the agent and technic of choice. The reasons for this choice have been fully discussed by Waters and Muehlberger[4] and Davis.[5] Cyclopropane by pharyngeal insufflation is used quite advantageously in such short operations in children as iridectomy, needling and examination.

Perineum.—This group includes not only operations on the structures in this region, but also those that are accomplished by the perineal route. Of 1,274 procedures, 686 were done with cyclopropane, 44 with ether, 177 with nitrous oxide, 201 with procaine spinal analgesia, and 67 with procaine transsacral block. The majority of anal operations were done with procaine transsacral block, as it allows for complete sphincteric relaxation, thus facilitating the operation. Of 276 transurethral prostatic, cystoscopic or bladder procedures, only 12 were done with cyclopropane, while in 189 instances, low procaine spinal analgesia was used. This choice (low spinal) is made wherever feasible in these operations because of the elimination of the fire hazard. Of 629 vaginal outlet operations, such as dilatation of the cervix and uterine curettage, perineal repair, vaginal hysterectomy, and endometrial biopsy, 531 or 84 per cent were done with cyclopropane. In practically all obstetrical

cases, such as spontaneous or forceps deliveries, nitrous oxide is used. In those instances when satisfactory analgesia or anesthesia is not possible without oxygen lack, as when the infant's head passes over the perineum or when more relaxation is required, cyclopropane is added as a supplemental agent. In 1938, such supplementation was necessary in 66 out of 163 instances.

Inguinal.—This group is composed largely of operations for hernia. As little muscular relaxation is required by our surgeons for these procedures, all agents are used, mainly for student teaching purposes. In 50 per cent of the instances, cyclopropane was administered.

Extremities.—This group includes operations on the bones, joints, muscles, tendons and nerves, as well as amputations and reduction of fractures. Cyclopropane was used in 70 per cent of 834 surgical procedures in this classification.

Spinal Cord and Column.—In 69 surgical procedures in this region, such as laminectomy, spinal fusion, etc., cyclopropane was used in 45 instances.

Thorax.—This group includes breast operations as well as those on the bony thoracic cage and pleura. It also includes intrapleural surgical procedures. In the majority of operations on the breast, nitrous oxide was used as here again no muscular relaxation is necessary. However, in 16 instances out of 79, cyclopropane was employed. In all but 32 of 211 thoracic operations, both extra- and intra-pleural, cyclopropane was used. In only 9 of the 32 instances where it was not employed was nitrous oxide used. Ether was used for two complete pneumonectomies. In this group there was only one operation on the heart, and cyclopropane was the anesthetic agent in this instance. The preponderant use of cyclopropane in this group of patients is, of course, due to the fact that it is potent enough to allow for ample oxygenation and yet the irritation to the pulmonary membranes is minimal.

Intraperitoneal, Upper.—This group includes such surgical procedures as ventral hernia repair, exploratory celiotomy with or without lysis of adhesions, cholecystectomy and operations on the bile ducts, splenectomy and operations on the stomach. In a total of 258 operations, cyclopropane was used 58 times, ether 181, and procaine spinal analgesia on only 7 occasions. In the majority of the 58 operations which were completed under cyclopropane anesthesia, controlled respiration as described by Waters[6] was utilized. Ether was chosen as the anesthetic agent for splenectomy because of the findings of Searles.[7]

Intraperitoneal, Lower—In this classification are included appendectomy, intestinal operations, exploratory celiotomy, various gynecologic pelvic operations and cesarean section. Cyclopropane was the anesthetic agent in two-thirds of the 692 operations in this region. Ether was used in 26 per cent and here again procaine spinal analgesia was used only 7 times. Cyclopropane was successfully employed in cesarean sections, 29 in number.

Abdomen and Lumbar, Extraperitoneal.—Into this classification fall the operations on the kidney, ureters and urinary bladder. In 75 per cent of these 90 procedures, cyclopropane was used.

PATIENT'S AGE AND PHYSICAL STATE

Cyclopropane was employed in only 7 out of 72 operations on infants under one year of age. It was used in 18 per cent of the 454 surgical procedures on children from 1 to 9 years. There was an even distribution as compared with other anesthetic agents throughout the remaining age groups. The relative infrequency of its use in infants and young children may be explained by the fact that the carbon dioxide absorption technic is most commonly used in its administration. As has been pointed out,[8] the technical equipment with which we employ the carbon dioxide absorption technic is designed for adults and therefore its use in infants and children is sometimes ill-advised due to the resulting interference with carbon dioxide elimination. This technical handicap we hope will be corrected in the near future.

Cyclopropane was employed in slightly less than 50 per cent of the instances where the physical status of the patient was classified as either good, fair, poor or serious. It was used in more than 50 per cent of the emergency operations. This higher incidence of its use is due to the ease of induction in poorly prepared patients.

PREMEDICATION

Morphine and scopolamine alone in the ratio of 25 to 1 given subcutaneously one hour and a half before operation was used as premedication in 87 per cent of all cyclopropane administrations. Moderately small doses were used throughout. Barbiturates were rarely used.

TECHNIC

The "to and fro" carbon dioxide absorption technic is used for over 90 per cent of all cyclopropane administrations. During induction and throughout the maintenance of anesthesia, the agent is added dosimetrically. There have been few alterations in actual technic since first described[9] in 1934 and later amended[10] in 1936.

There is one important alteration in technic. It was merely mentioned by Waters[10] in 1936 as we were just beginning its use. During the induction and throughout maintenance of anesthesia, an attempt is made to prevent the oxygen content in the respired atmosphere from becoming excessive. This is accomplished through the use of air in addition to oxygen during induction and maintenance. Care has to be used not to allow oxygen want to develop during the course of respiratory depression. When it occurs in deep cyclopropane anesthesia, it is sometimes necessary to assist respiration with manual aid.

At the end of anesthesia, active pulmonary ventilation is produced so as not to leave rapidly absorbable gases in the alveolar spaces. This is best accomplished by having the patient take a few deep breaths of air. If he is still unconscious and not breathing actively, the lungs are inflated with air by use of the mask and breathing bag or by dribbling just enough pure carbon dioxide over his nose to cause active ventilation.

In view of the present interest in the fire and explosion hazard it is well to state that the patient, operating table and anesthetic machine are all contacted by the anesthetist immediately before the administration of any anesthetic. This is done to equalize any static electrical charges that may have accumulated. Furthermore, as an additional precaution the cyclopropane is not turned on until after the mask has been adjusted to the patient's face.

POSTOPERATIVE RESPIRATORY MORBIDITY

Because of the multiplicity of factors which influence postoperative respiratory morbidity, it is hardly fair to discuss their incidence following the use of any particular anesthetic agent. They are submitted, however, in *Table 1*. Only major complications such as pneumonia, atelectasis, lung abscess, empyema, and pulmonary embolism are listed.

POSTOPERATIVE RESPIRATORY MORBIDITY

	Total Administrations	Total Complications	Percentages
C_3H_6	2304	25	1.08
Ether	1018	21	2.06
N_2O	597	13	2.17
Others	749	7	0.93

Incidence of major postoperative respiratory complications (pneumonia, atelectasis, lung abscess, empyema, and pulmonary embolus) occurring in 4,668 anesthetic administrations.

Table 1

MORTALITY

Again, because of multiple factors, it is profitless to discuss operative mortality rates following the use of any particular anesthetic drug. A table is, however, presented (*Table 2*). The figures include all patients who died from any cause within three months following the administration of an anesthetic by our department.

MORTALITY

	Total Administrations	Deaths	Percentage
C_3H_6	2304	50	2.17
Ether	1018	30	2.94
N_2O	597	12	2.01
Others	749	26	3.47

Incidence of death (within three months) following 4,668 anesthetic administrations.

Table 2

COMMENT

It is apparent from the data presented that cyclopropane has been used at the Wisconsin General Hospital during the past year largely where ample muscular relaxation is obtained without excessive respiratory depression. As more is known from both a laboratory and clinical standpoint, the uses to which cyclopropane will be put will vary. Its scope will be widened in some respects and limited in others.

It is to be remembered that many interpretations herein contained are those of the writer. Technics, the agents used, the uses to which they are put, the methods employed, the results obtained and the interpretations of experiences vary even within our own department.

SUMMARY

(1) Cyclopropane has been and is being used for all types of surgical procedures. Mention is made of various operations and the various anesthetics employed.

(2) Age and physical status of patients receiving cyclopropane and premedication for this agent are also mentioned.

(3) The technic of administration of cyclopropane is further amended.

(4) Postoperative respiratory morbidity and mortality tables are presented.

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DISCUSSION (*Abstract*)

Dr. Merrill C. Beck, New Orleans, La.—From the paper it seems that Dr. Hathaway and his staff like cyclopropane very much. I can understand that, because we have been using it for four or five years now, and the group that I work with comprises six people. I estimate that we give about six or seven thousand anesthetics a year, and five thousand of these are cyclopropane. We have had no reason to believe that we shall not continue using it. Some of the physicians, perhaps one or two, whom I work for do not like it. But I feel that their opinions are biased and the trouble that they have had would have occurred with any anesthetic, whether cyclopropane, ether or local.

Dr. Hathaway spoke of operations on the head and neck, face and mouth, using pharyngeal insufflation. We use cyclopropane in most cases, but use either oral or nasal intubation for this reason: that with a free airway we have direct control over the patient. When the operation is upon the face, especially plastic work, or upon the eye, everything is covered except the part that is being operated upon. If at any time there is any obstruction to the airway, one has a very difficult time producing a free airway. It is sometimes necessary to mess up the surgeon's whole operation to produce an adequate airway. The anesthetist may think to himself: "Well, the patient will be all right in spite of a little cyanosis. We will let it go."

We have had one or two sad experiences in that way with patients who were not all right with a little cyanosis. So we intubate practically all operations upon the head, face and nose. For adult tonsillectomies, we almost routinely use nasal endotracheal anesthesia with cyclopropane. The bleeding is a little more, but all of our ear, nose and throat men tie off the bleeders, and no matter what agent we use, we have very few postoperative bleedings. It probably takes a little more time, but we feel the patient does better with gas anesthesia.

For the other types of operations, we use just about the same methods that Dr. Hathaway uses.

A question that I should like to ask is: does Dr. Hathaway add ether to the cyclopropane if he does not get adequate relaxation, and does he feel that he has more trouble postoperatively and during the operation when he does add ether, if he does, to the cyclopropane anesthetic?

Dr. Gordon King, Jacksonville, Fla.—I know that the physicians who have given papers here today have not intended to convey the impression that the type of anesthesia which they report is best under all circumstances. However, it might be easy to lose sight of the fact that locality and the individual's equipment, experience and training influence the choice of anesthetic. If I were in Louisville and needed an abdominal operation and Dr. Dollar suggested that he would like to give me a spinal, I should be all for it; but, on the other hand, if I were at home, I should be a little reluctant to take a spinal except under the strongest indications for it. Again, if I were in Toledo and Dr. Fred Clement were available, or in Hopkinsville, Kentucky, with Dr. Frank Bassett, I should be glad to have any length of nitrous asphyxia, as it has been called, that might be necessary, and should go to sleep knowing that the safest anesthetic possible was being given.

So that I think Dr. Hathaway brought out an important point for consideration, that is, that situations other than those of a technical nature alter our choice of anesthesia. We ought to consider that seriously.

Dr. Beck brought out a peculiarity of cyclopropane that I believe I also have observed. I am very reluctant to start a case on cyclopropane unless I feel that I shall be able to carry the patient all the way through on cyclopropane, without adding ether. I do not feel that I have been able to add it smoothly or to add it without getting an increase in postoperative morbidity over what I should have had if I had started with nitrous oxide and added ether.

Dr. Eldon B. Tucker, Morgantown, West Va.—Anything that comes out of Madison is considered good, especially if it is on anesthesia. I should like to ask Dr. Hathaway why he prefers cyclopropane for the ordinary tooth extraction. In our community we extract fifteen or twenty teeth in five or ten minutes under nitrous oxide anesthesia, and the patient is ready to go home in a few minutes.

The question has come up about the addition of ether. I should like to know whether there is any particular objection to the use of ether, if one can add it to the to and fro absorber without producing too much irritation. With the ordinary machine that is in use, the addition of ether in the to and fro absorber is going to be entirely too irritating to the patient unless it is introduced at the distal end; but when you can add it to the circle filter, practically no immediate irritation is produced.

I should like to ask Dr. Hathaway a question pertaining to chest complications. We live in a climate that is quite variable; practically everyone has some chest or respiratory infection at this time of the year. It seems to me that quite a number of these infections and postoperative complications are due to the infection that is already present in the respiratory tract. Do you believe this is an important factor in postoperative complications?

Dr. Carl W. Hoeflich, Houston, Tex.—I understood Dr. Hathaway to say that he had changed his method of induction. I still use the original method that we were told to use, almost a bagful of oxygen, and then slowly turn on the cyclopropane. What is the objection to that, and why has it been changed? With a 50 per cent mixture, trying to get a rapid absorption of cyclopropane or trying to get a rapid induction, many times my induction is not quite so smooth as it is using what I would term the old method that we were originally taught.

Dr. Hathaway (closing).—Dr. Beck said that we liked cyclopropane very much. We do use it in nearly 60 per cent of the instances in which we use inhalation anesthesia. In 1933, 1934 and 1935 we used it much more frequently than we are employing it now. Cyclopropane, we feel, is still in the experimental stage. I believe, however, it is gradually finding its place in the armamentarium of the experienced anesthetist.

Dr. Beck also mentioned its use for surgical procedures about the head and upper air passages. As I pointed out, we use it infrequently under these circumstances for two main reasons. In the first place, in many instances the insufflation technic is employed and thus cyclopropane is eliminated because of the expense involved. In the second place, the frequent use in our clinic of epinephrine as a vasoconstricting agent in conjunction with these operations also largely eliminates the use of cyclopropane in this group.

Dr. King spoke of the varying conditions under which we work. I heartily agree with him. Local conditions alter anesthesia and surgical practices tremendously. I personally do not care what anesthetic agent or technic is used on me should the necessity for a surgical procedure arise. I am, however, particular about the anesthetist. I am also particular about the surgeon. I should have nothing whatsoever to say about it, for in whom I have perfect confidence. From then on I shoud have nothing whatsoever to say about it, for from then on I should be a patient and not a physician.

Dr. King also mentioned the use of cyclopropane anesthesia for upper abdominal surgery. As I said, we used it in only 58 out of 258 instances in this region.

Dr. Tucker questioned the use of the "heavy" anesthetic agents (cyclopropane and ether) in dental surgery. We agree with him in that we, too, use only nitrous oxide for simple extractions. However, I was speaking of major oral surgery such as complete extractions, wiring of fractured jaws and the removal of multiple impacted molars. In these instances, we use a nasal endotracheal tube with the carbon dioxide absorption technic. For the introduction of the endotracheal tube either ether or cyclopropane is employed, and on many occasions the remainder of the anesthesia is conducted with nitrous oxide. The heavier agent, however, is of course given the credit for the procedure.

Dr. Tucker also brought up the question of the supplementation of a cyclopropane anesthesia with ether. This is certainly a perfectly legitimate procedure. However, the cyclopropane administrations reported here were conducted with that agent as the "heaviest" one used. Occasionally a surgical procedure was attempted with nitrous oxide anesthesia and cyclopropane had to be resorted to. In others, the cyclopropane anesthesia was "tapered off" with nitrous oxide. On all these occasions cyclopropane was credited with the anesthesia, because this agent was necessary to accomplish that which one set out to do. In my mind it is extremely difficult to "supplement" a gas anesthesia with ether, because in many circumstances one loses the advantages of the gas. It has therefore been our practice in such cases to call it an ether anesthesia and in the large majority of instances to shift over completely to this agent.

Chronic upper respiratory infection was mentioned, and its relationship to the choice of anesthetic agent. We, too, at Madison encounter a great many patients with this preoperative diagnosis. Because of the loose application of the term we have been unable to correlate it with any degree of accuracy with respiratory complications following operation.

Dr. Hoeflich brought up the matter of the use of air while employing the carbon dioxide absorption technic. We prefer to prevent the oxygen content of the respired atmosphere from becoming excessive. This is done by the use of a mixture of air and oxygen rather than pure oxygen during induction and maintenance of anesthesia. The reasons for this preference are based partially on some scientific evidence, but mainly on pure clinical impressions. There is some evidence that a high oxygen content may partially interfere with carbon dioxide elimination. It is logical to suppose that there is no more excuse for using more oxygen in anesthetic atmospheres than is needed than there is for using more anesthetic agent than is needed. It is also logical that if a less rapidly absorbable gas than oxygen is present in the respired atmosphere both during and at the end of anesthesia there will be less possibility for the formation of atelectatic areas in the lungs. This, of course, is a lead toward fewer pulmonary complications. We also have the definite impression that we have seen fewer immediately postoperative circulatory disturbances following the use of this technic than when oxygen alone has been used as the anesthetic diluent.

We have applied our ideas by the use of the nitrogen in air. Helium may be employed for this purpose, but blowing in the end of the breathing bag is quite as efficient in our estimation, and certainly much cheaper.

OVER-REGIMENTATION IN PEDIATRICS*

By HUGHES KENNEDY, JR., M.D., F.A.A.P.
Birmingham, Alabama

"Time marches on". This section is twenty-two years old today, having just passed through its first year since reaching the age of discretion. The subject of the first chairman's address by William Weston[1] was "Some of the Problems Before Us." It occurred to me that it might be interesting to stop and take stock of the intervening years. What are the problems before us today? Has this section been marching with time? We have had several alternatives: keeping step, lagging behind or going too fast. Weston's address stressed the importance of the reduction of infant mortality. The infectious diseases were taking a heavy toll. Statistics be-

*Chairman's Address, Section on Pediatrics, Southern Medical Association, Thirty-Third Annual Meeting, Memphis, Tennessee, November 21-24, 1939.

low will show that his advice has been heeded and that great strides have been made.

INFANT MORTALITY, 1917 AND 1938

Deaths Under One Year of Age per 1,000 Live Births

	1917	1938
United States	93.7	57.1*
Alabama	85.5	60.6

*1936—last year figures available.

DEATHS FROM DIARRHEA AND ENTERITIS (UNDER 2 YEARS OF AGE), AND TOTAL TYPHOID FEVER DEATH RATE IN ALABAMA PER 100,000 POPULATION

	1917	1938
Diarrhea and enteritis	68.0	18.1
Typhoid fever	39.1	2.0

In 1917, the pediatrician was a specialist, a consultant. Today, we are general practitioners limiting our practice to the younger age group. As the various infections come under control, our activities must turn to other channels.

Regimentation is a popular (or rather should I say, unpopular) word today. In our endeavor to find new lines of activity, are we not stressing too strongly certain supposed standards?

Mothers are told that the baby should sleep so many hours, the stools should be just so, a certain number of ounces of milk should be taken. On one occasion, I saw the diet list of a normal baby which stated that the baby should have one-third of an egg and three-eighths of a piece of toast. Is this not carrying regimentation to an extreme?

It is my desire to call to your attention certain clinical rather than scientific observations. You will not agree with some of them; others you will think are trite. However, it is frequently the simple, obvious things that we fail to get across to mothers that cause them much concern.

Washburn[2] has emphasized the fact that there is a wide variation in the normal, both anatomical and physiologic. The average must not be considered the normal. Give the baby some latitude.

In my opinion, the greatest curse visited upon the present day mother is the book, chart or newspaper article that tells how much the baby should eat or what he should weigh at a given age. It is just as impossible for every baby to weigh above the average as it is for every child in an arithmetic class to be above the class average. Have we succeeded in making our mothers realize this fact? I am afraid we have not.

Chart 1 shows the rate of growth of baby E. A. He had a big frame, was tall and should have been well above the average weight. The same chart also shows baby J. H. She was a premature baby, weighing 3 pounds, 8 ounces. I felt that she did quite well, as demonstrated by the weight curve. Still, her mother was constantly worrying because she was "underweight." In addition to her prematurity, she had a small frame and probably would have been under the average weight even if she had been born at full term.

Each baby has his own normal pattern of growth and he will attain this level or pattern at an early time if he is fed properly and remains free from disease. In a recent book, "Babies are Human Beings", Aldrich and Aldrich[3] wisely observe that we do not know the future architecture of a given baby, that "the blueprints are hidden within the baby himself."

Chart 2 shows Baby J. E. R. His blueprint called for his weight to be just about the average. When he was born at 5 pounds 8 ounces he gained very rapidly until his own normal pattern was reached. Then he paralleled the average growth line.

Chart 3 shows Baby L. A. G. She was over her birth weight in less than two weeks on breast feeding alone. Before her next visit, the breast milk supply had markedly diminished. When sufficient artificial food was added, rapid progress resulted. However, when she reached her own normal, average progress ensued.

Chart 4 is that of Baby P. F., who was first seen at 16 weeks. The birth weight was unknown, but the mother thought she weighed 8 pounds 4 ounces at 2 weeks. She was being fed six level teaspoonfuls of dried milk to six ounces of water every three hours. One tablespoonful of corn syrup was added to the entire day's feeding. When her formula was properly increased she made rapid progress toward her own normal.

In proof of the observation that each baby has his own normal growth pattern and will maintain it if fed properly and if free from disease, I cite *Chart 5*, which shows two sets of identical twins. Me T. and Ma T. started below the average. They gained very rapidly until their normal was reached. Their growth was quite parallel. At the thirteenth week, Ma T. developed a severe respiratory infection. However, following his recovery, he gained more rapidly and soon conformed to nature's blueprint, where he apparently would have been had he not had this infection.

I am sure we have all seen this same situation occur where the baby was steadily below the average. Following such an infection, he would take a larger amount of food and his gain would be more rapid. The mother would become very excited over it, stating that she had heard that an illness would sometimes eliminate poison and make the baby get fat. I have learned to warn these mothers that the rapid progress will probably change to the old level as soon as the baby reaches the point where he would have been had

he not been sick. Ma T. shows a typical curve.

Twins, M 1 and M 2, also show a similar curve in *Chart 5*. They also started below the average. However, this seemed to be their normal pattern, as they essentially paralleled the average weight. At the forty-third week, they both developed a respiratory infection with otitis media. Following recovery, their gain became more rapid.

In these charts, I have tried to show that each baby has his own normal rate of growth. I also believe that each individual baby has his own food requirement which may vary greatly from that of another baby of the same age and height. We hear much of anorexia. How much of this is real anorexia and how much is the baby's normal appetite, merely at a level lower than we have scientifically determined that it should be? The food intake of adults varies. Why should not the same be true for infants?

Charles Hendee Smith[4] urges strongly against the early feeding of concentrated foods to the young infant in an endeavor to make him gain more rapidly. In support of this opinion, he quotes from several writers whom we may truly call the elder statesmen of pediatrics, Morse, Talbot, Hess, Holt, Brennemann, Marriott, and Schick. Smith says that the baby may handle the concentrated food for awhile but that sooner or later, some gastro-intestinal disturbance will result. He urges against overfeeding. Suppose the baby does gain very rapidly and becomes quite fat. What has been accomplished other than satisfying the family? Is the baby any healthier? I agree with Smith in principle but just as we see some babies who seem to want little food, there are others who insist on more than the average. They are unhappy if not given more food. I am firmly convinced that both of these groups can present normal, healthy babies.

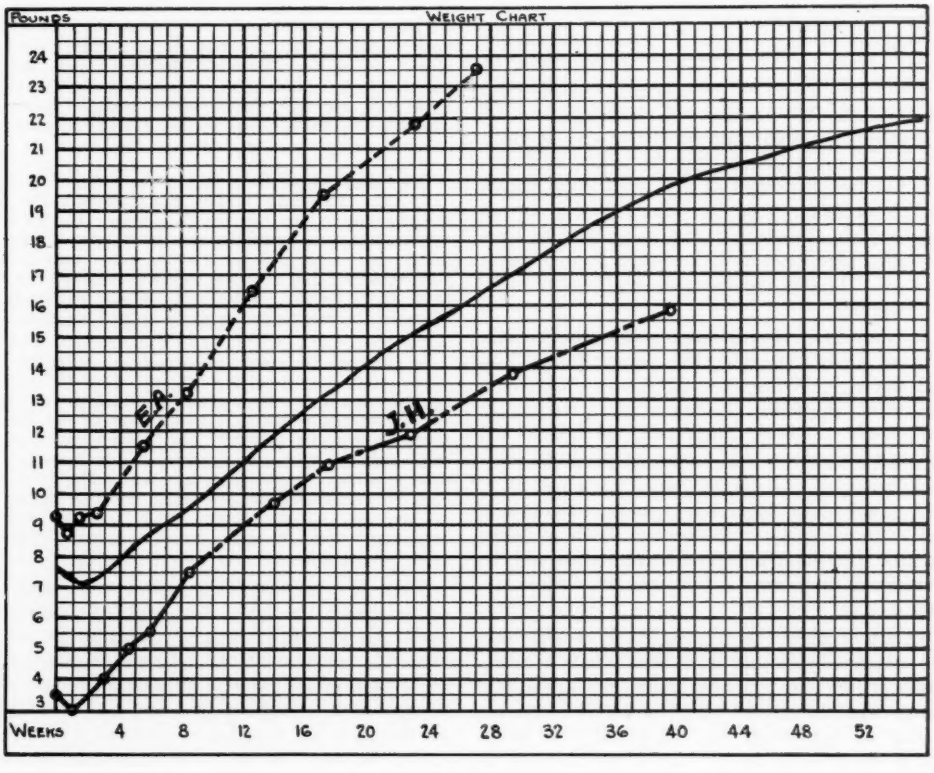

Chart 1

Shows pattern of growth of babies E. A. and J. H. The solid line shows the average rate of growth. Although baby J. H. was below the average line, she paralleled it and was considered to have done as satisfactorily as E. A., who was constantly above the average.

Just as I do not force the small eater to take more than he wants, I permit the large eater to take all he desires. I believe there is a difference between urging and permission. If the latter baby is getting too fat, I attempt to reduce the strength of the formula while still permitting the desired quantity.

However, if the baby is not satisfied, I return to the original formula. While the baby may seem to be getting too fat, it is my experience that they lose this obesity when they begin to crawl and pull up. Especially is this true when they begin walking.

These babies do not develop gastro-intestinal disturbances. If they are not allowed to have enough food, they yell lustily and keep the home in a turmoil. I am not referring to the baby who cries for a few seconds after finishing the bottle and then sleeps well until the next feeding time. These infants cry merely because they like the act of eating and not because they are hungry.

Chart 6 shows two interesting cases. At 7 weeks of age, Baby M. M. was taking 7 ounces every 4 hours of a 1 to 2 formula of evaporated milk and water with 5 level tablespoonfuls of beta lactose. One week later the mother reported that she had been crying from 6:00 to 10:00 p. m. each night and acting as though she was hungry. When advised to let her have as much as she wanted, she reported back that she took 13 ounces the first night and 12 ounces the following night. She immediately went to sleep in perfect comfort. The third night she went back to her 7 ounces and was satisfied. She acted as though she merely wanted to satisfy herself that she could have all she wanted. It is interesting to note that at this time she reached her own normal and then paralleled the average.

The same chart shows Baby G. H. M. At 6 months he weighed 21 pounds 8 ounces. However, he was 28 inches long and did not give the appearance of being excessively fat. He had refused the 10:00 p. m. bottle after the third month, taking only four 8-ounce bottles a day of a 1 to 2 evaporated milk mixture with added

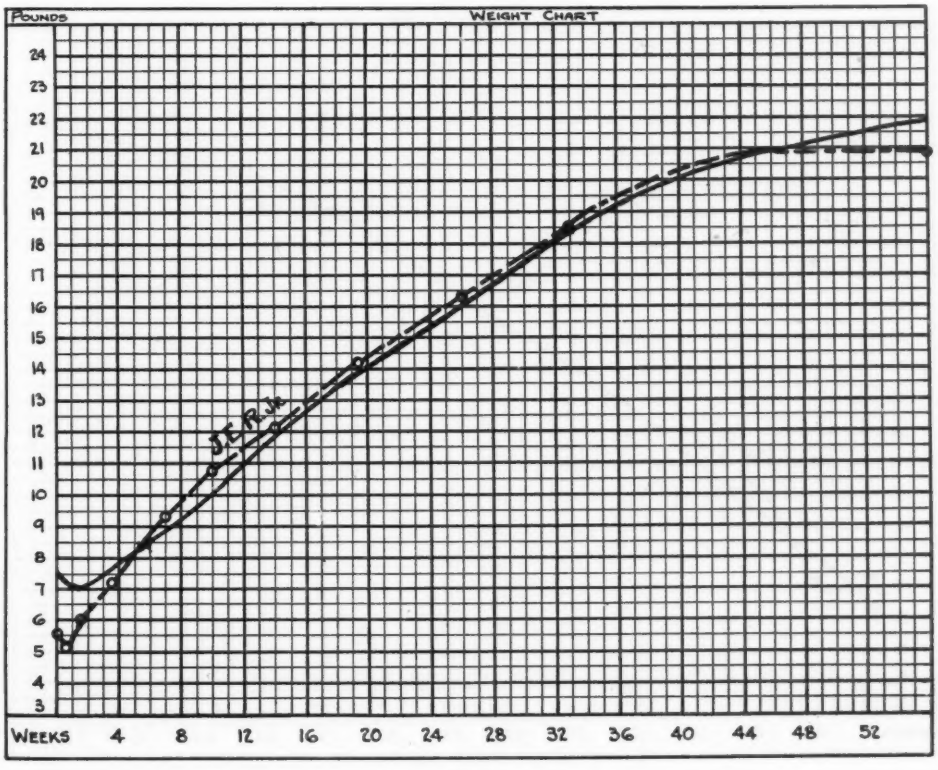

Chart 2

J. E. R.'s normal pattern was just at the average. He gained rapidly just after birth until this level was reached and then average growth followed.

dextrimaltose. He was satisfied for several weeks. However, when in my office at 19 weeks of age, the mother reported that he had seemed hungry recently after both the 6:00 a. m. and 6:00 p. m. feedings, so she had gradually offered him more, but used the same proportions. To my amazement, I discovered that he was taking 16 ounces at both 6:00 a. m. and 6:00 p. m. and 8 ounces at 10:00 a. m. and 2:00 p. m. The addition of cereal, vegetables and strengthening of the formula met with the continued demand for the 16 ounces twice a day.

M. M. is now 3 years old and G. H. M. is 19 months. Neither has ever shown any signs of gastro-intestinal disturbances.

Kugelmass[5] as well as others has interested himself in the loss of weight during the newborn period. He speaks of birth shock. Great effort has been expended in an attempt to reduce this loss by 1 to 3 ounces. A bottle is put in the baby's mouth soon after delivery and much pressure is put upon him to take something that he does not want, at least in an amount that he does not want. If the baby does lose less, what has been accomplished?

Does any harm result from this early feeding? A simple hydrating solution without milk or other protein should be all right. Ratner[6] suggests that the prelacteal feeding of cow's milk may result in milk allergy in susceptible infants. Bakwin[7] thinks it may predispose to tetany of the newborn. Certainly we are seeing more and more babies that are allergic to milk.

In advising complemental feeding in the newborn period, Dwyer and Neff[8] say:

"When the amount of complemental food is carefully regulated by measuring the intake of breast milk and if it is not given when the breast supply becomes sufficient and never until the supply is exhausted, this practice apparently has no adverse influence on the ultimate breast flow. When complemental feedings are given freely or before the baby has emptied the breast, the breast supply is endangered and this results in early weaning."

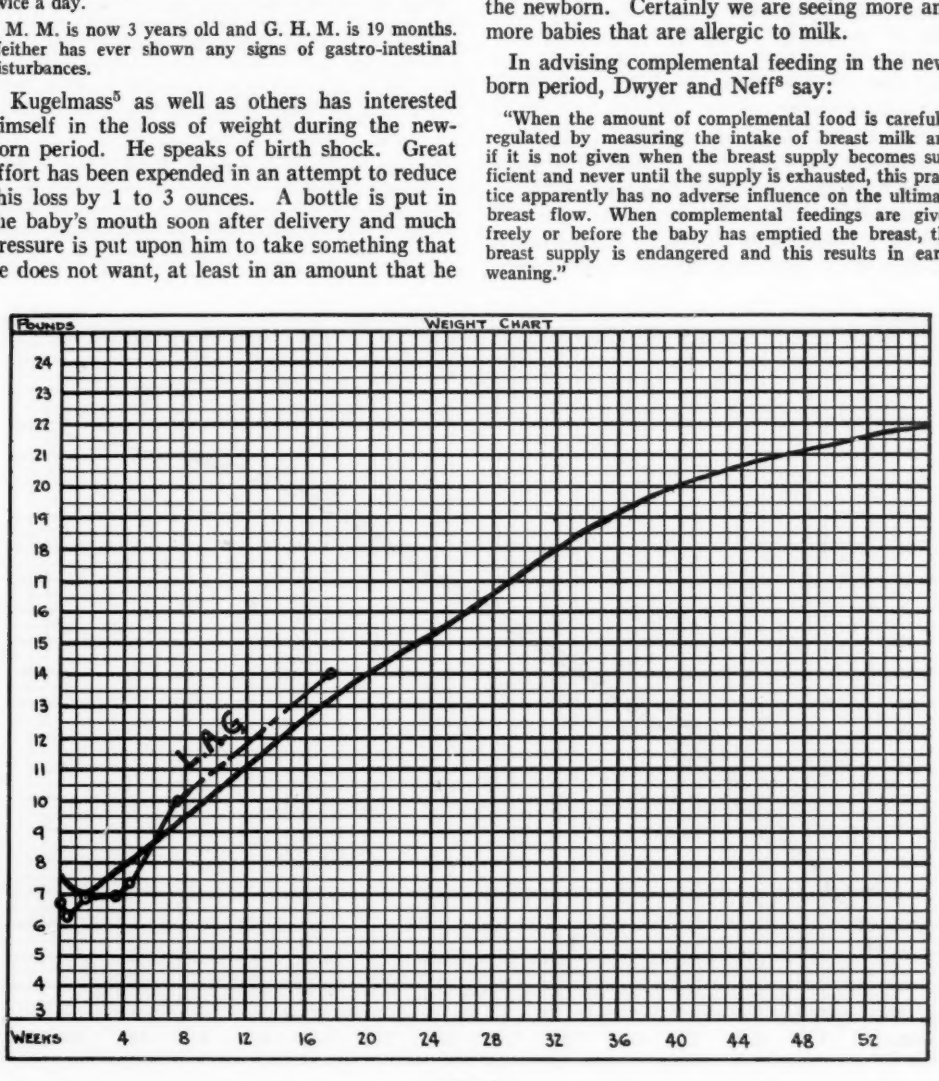

Chart 3

Between the second and fourth weeks, L. A. G. did not have sufficient food. When artificial feeding was instituted she gained very rapidly until her normal was reached. Then, she paralleled the line. The temporary period of insufficient food caused no permanent harm and she soon reached her normal level.

If complemental feeding is necessary, this is perfect advice. However, I am afraid it is seldom followed. As soon as the breast flow slows down, the baby yells and he is given the bottle. He is rarely compelled to empty the breast.

The increasing regimentation of the expectant mother's diet should be mentioned. Milk should be very valuable for her as well as her fetus. However, if she is forced to take foods that she has not been accustomed to and particularly if she does not like them, allergy in the baby is an increased possibility.

A certain amount of regimentation is necessary. Babies must be fed. They apparently do better if fed at regular intervals, although an occasional physician advises that the baby be fed when he wants it and presumes to show that he does better on this regime. Vitamins A, C and D should be started at an early age, but should B and G be given routinely? Now Vitamin K is being recommended at birth to control hemorrhagic disease of the newborn. Several years ago, dicalcium phosphate was put on the market with much publicity. For about a year, it was almost a daily occurrence to have a mother ask before she was well seated in the office,

"Do you give all of your babies calcium?"

If these preparations are necessary or are valuable to the baby, we should use them. However, we should determine carefully whether they should be given to selected infants or merely routinely. It is very easy to get into routine habits, because of publicity and the mother's demands.

When this section was organized, babies were given only milk, orange juice and cod liver oil during the first year. Cereal water or thick cereal feedings were given only to selected cases. Cereals and vegetables played no part in the

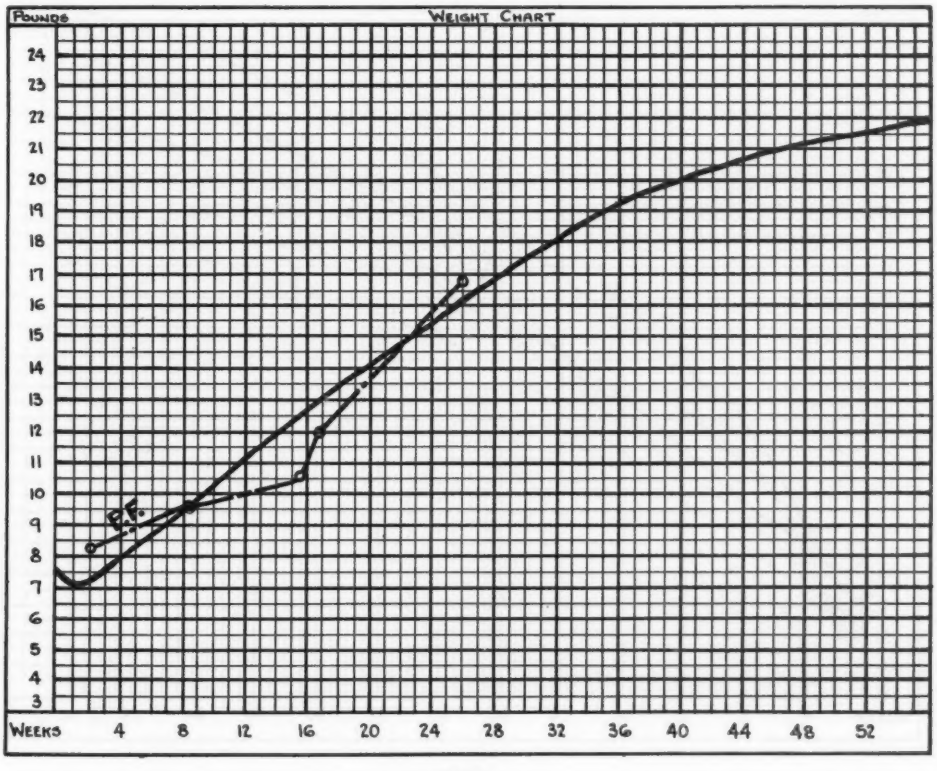

Chart 4

Shows a situation similar to Chart 3. P. F. was first seen at the sixteenth week. Her formula was markedly deficient in calories. Her progress toward her normal was rapid when sufficient calories were given.

normal infant's diet. Shortly after this time, it was realized that milk failed to provide the mineral requirements during the latter half of the first year. Attention was centered then on earlier feeding. As a result, cereals and vegetables were advised after the fifth and sixth months. This procedure seemed to work well and is still advocated by most writers. Holt[9] advises against the routine use of these foods at an earlier age. In spite of this, pediatricians are vying with each other in various communities to see who can feed the baby at the earliest age. Aldrich and Aldrich[3] say that the race is on between the pediatricians and the nutritionists. However, they feel that the race is about over since a pediatrician has reported the use of cereals and vegetables at the age of one month.

Is this not regimenting the baby too much? Again the possibility of increased allergic manifestations arises as a result of the early feeding. However, for the sake of simplicity, let us overlook this possibility. What does the baby gain by being fed so early? Milk supplies his normal requirements at this age, he has no teeth, nature meant him to be a suckling animal. Why pry his mouth open with a spoon and force him to eat solid food? It certainly gives the mother more work to do and may possibly interfere with the normal development of the baby's appetite.

In discussing the routine use of solid foods before the fifth month, I realize that there are exceptions. Holt[9] recommends not giving a baby over 37 ounces of milk. It has been my custom to limit the milk intake to 32 ounces. If the baby is not satisfied with one quart of milk a day, I institute cereal feeding regardless of age. It might be wise to determine the age of cereal feeding by the commencement of drooling. The increase in saliva has nothing to do with teething. It is merely nature's way of

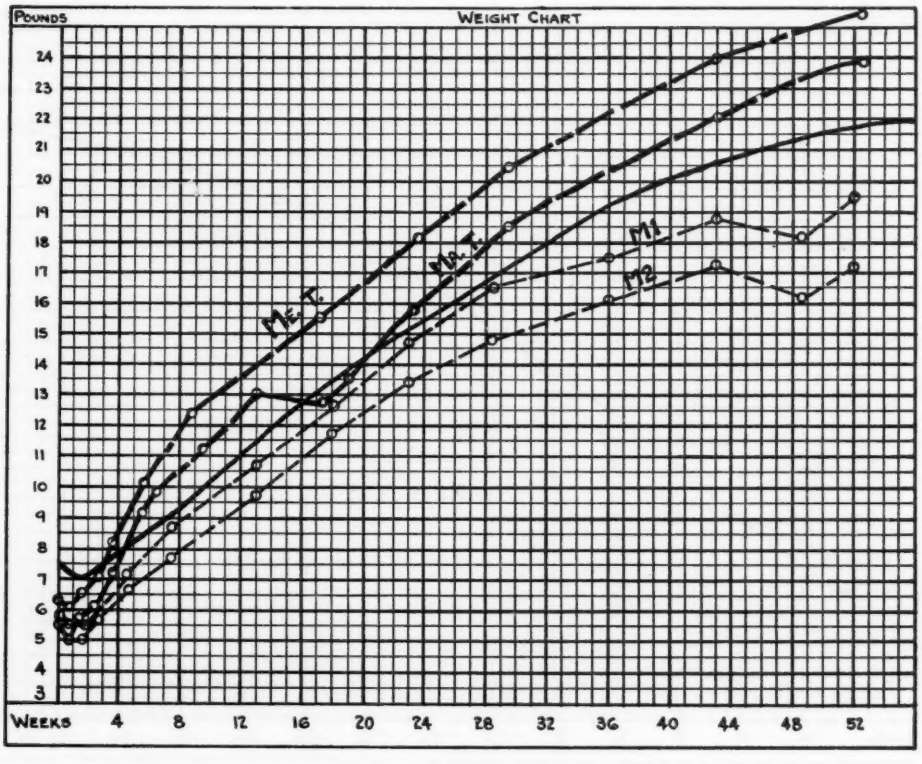

Chart 5

Shows two sets of identical twins. Following an illness, Ma T. gained very rapidly until his normal was again reached. Both M 1 and M 2 had severe respiratory infections. Following recovery, their gain was more rapid. These three babies did not have net losses. They soon regained their normal levels.

suggesting that the baby should have some solid food and especially starch.

In conclusion, I want to make a plea that the baby be allowed to enjoy his own individuality. Since he is to be a member of society, a certain amount of training is necessary, certain habits must be formed. However, do not try to make him eat, sleep and grow like the neighbor's child. On one occasion, I found a mother giving her three-year old child an enema every night at bedtime although she had had a good stool in the morning. She had read in a book that every child should have two stools a day. Recently a twenty-months old child was brought in because she was "nervous", was sleeping poorly and would not eat. When the mother was advised to let her feed herself, she stated that the child spilled her food over the floor and she could not tolerate such table manners. Is it any wonder that this baby was said to be "nervous."

What, then, are the problems before us today? The acute infections are not completely eradicated. Therefore, we must continue to fight them. However, as the battle gets less interesting and our energies turn to other fields, are we not increasing our child psychology problems through misguided attempts at regimentation? Would it not be wise to let the pendulum swing backward a bit and allow the baby to eat the amount of food that he desires instead of insisting on a certain caloric intake? Clara Davis[10] says that the infant shows good judgment. If he wants to have his stool at 6:30 p.m. instead of 7:30 a.m., what is the difference to his health? It will certainly be more convenient when he starts to school. Good elimination is difficult when the child is in a hurry between breakfast and school time. If the baby stays awake for an hour or so in the day, lying quietly in bed, the average mother frets about it because she

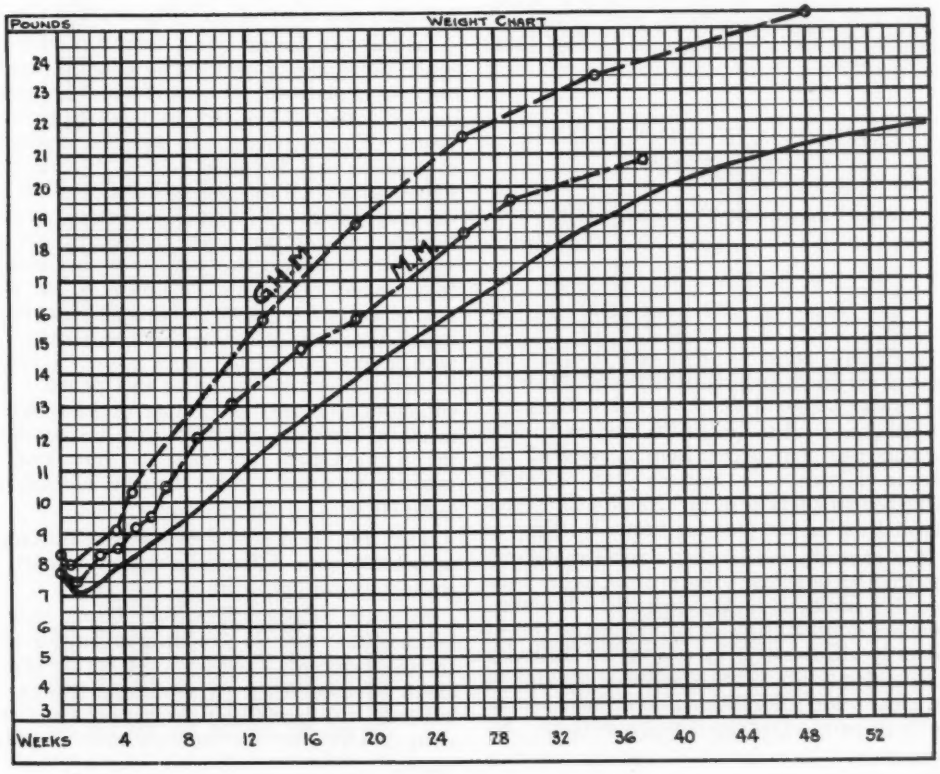

Chart 6

Both G. H. M. and M. M. required more than the estimated caloric intake. They were not satisfied or happy without this increased food. Sufficient calories resulted in satisfactory progress well above the average line.

has read that babies should sleep except when being fed or bathed.

I believe that the chief problem before us today is a diminution in regimentation and the avoidance of an increase in our psychological problems. Let the baby have some individuality, and, therefore, a more stable character. "Time marches on."

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PNEUMONIA IN INFANTS AND CHILDREN*

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In this discussion we undertake to point out some of the factors which influence the incidence and mortality rate of the pneumonias of infancy and childhood and to discuss the treatment. The statistics used were gotten from a review of 372 cases in children under fourteen years, admitted to the pediatric service of the Crippled Children's Hospital during the past ten years.

It is generally agreed that classification from a strictly bacteriologic point of view, as has been done for adults, is highly desirable. However, there are drawbacks to the application of this in the early childhood cases due to the difficulty in obtaining satisfactory specimens of sputum, to the great variety of pneumococci found and to the large part played by mixed infections. Although some of the more careful workers are, to a large extent, overcoming these obstacles and are differentiating a good proportion of their cases in this way, the majority of physicians still find it necessary to resort to the unsatisfactory clinical division into lobar and bronchopneumonias. The results of different investigators seem to justify the conclusion that, in both types, the pneumococcus alone or combined with other bacteria is responsible for the majority of cases while the streptococcus, staphylococcus and influenza bacillus account for nearly all the rest. It is not yet possible to estimate just how prevalent the more recently discussed virus pneumonias are, and such conditions as lipoid, allergic and other types of pneumonias can be omitted from a discussion of this kind.

Of the various age groups, by far the greatest number of cases occur during the first two years. More than 26 per cent of our entire series were under one year and over 46 per cent were less than two years of age (*Fig. 1*).

Of the two clinical types, bronchopneumonia is the usual variety seen during this age period, comprising about 90 per cent of our cases under one year and 80 per cent of those under two years. With increasing age the ratio gradually changes to that found in adults. Several different factors are thought to be responsible for the preponderance of bronchopneumonia during infancy. In the first place it is nearly always secondary to some such condition as the common cold, measles, whooping cough or influenza; and then mixed and superimposed infections are common. For obvious reasons, there is little resistance to any kind of infectious processes, either primary or secondary, during this period. We encounter a greater proportion of lobar pneumonia in the older groups because we are dealing with primary pneumococcic infections in subjects who have either become immune or more resistant to the other organisms.

That the incidence of pneumonia fluctuates perceptibly with different years is a matter of common knowledge (*Fig. 2*).

As might be expected, a study of our records indicates that there is a correlation between this and the occurrence of epidemics of the above diseases. An epidemic of measles, pertussis or influenza was generally in progress during those years in which we saw the most cases of pneumonia.

There is a well known seasonal variation which is illustrated by *Fig. 3*.

*Read in General Clinical Session, Southern Medical Association, Thirty-Third Annual Meeting, Memphis, Tennessee, November 21-24, 1939.

*From the Pediatric Service, Crippled Children's Hospital.

As will be seen, nearly all cases in this locality occur during the winter and spring months, the season when the epidemic diseases mentioned above are prevalent.

The first two years is not only the age of high incidence of pneumonias but, for reasons already brought out, the period shows a high death rate (*Fig. 4*).

In the series studied, approximately 50 per cent of those under one year died; during the second year the mortality dropped to about 20 per cent, while in the higher age group it was about 12 per cent. It must be remembered, of course, that these records are from the clinical service of a state hospital and reflect a higher death rate than would exist in private practice. *Fig. 4* also illustrates a fact which has often been observed but never explained, that more cases occur in boys than in girls.

The differentiation between lobar and bronchopneumonia is not always easy and it is sometimes a clinical impossibility. Nor can a bronchiolitis or capillary bronchitis, which may be accompanied by dyspnea, cyanosis, diffuse fine rales and emphysema, always be differentiated from bronchopneumonia. Furthermore, it is not generally possible to tell whether such organisms as the streptococcus, staphylococcus or influenza bacillus are primary or secondary invaders. But even though such distinctions cannot readily be made, all cases must be given advantage of the best methods of treatment that we have to offer.

Until fairly recent times the treatment was not only ineffective but much of it actually interfered with recovery. Many drugs were used without being indicated, numbers of disturbing procedures were carried out and the natural forces that aid recovery were hindered. The following quotation from Herberden's "Epitome

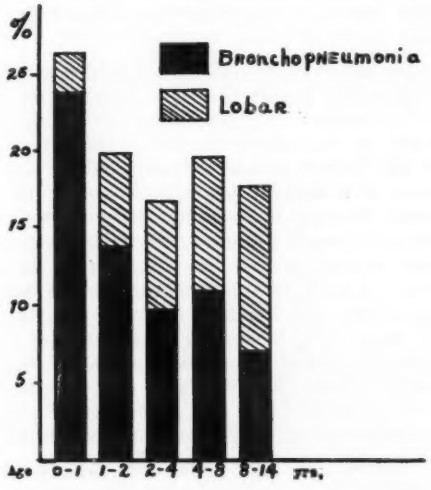

Fig. 1
Cases of lobar and bronchopneumonia occurring in different age groups.

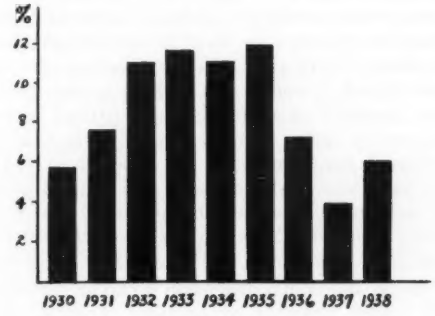

Fig. 2
Yearly incidence of pneumonia as related to the total admissions on the pediatric service.

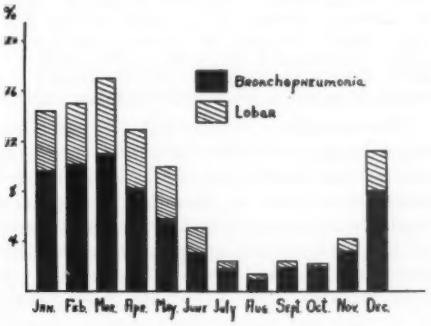

Fig. 3
Seasonal incidence of lobar and bronchopneumonia.

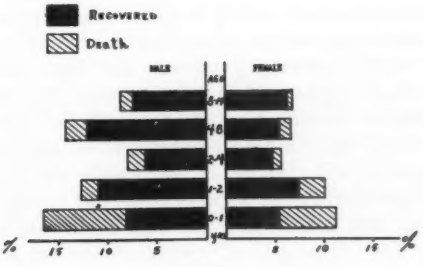

Fig. 4
Incidence of pneumonia with mortality rate in both sexes in different age groups.

of the Diseases of Children",[1] published in 1808, gives an idea of what was considered good treatment at that time:

"For the cure of a cough, it is often expedient to take away blood from the arm, especially if the disorder is attended with pain and shortness of breath. Should a child be too young to admit of such an operation, two or more leaches may be applied to the arm, or a vein may be opened in the neck. The body ought, at the same time, to be purged and a blistering plaster should be applied either to the breast or the back, whicn is the more necessary if there happen to be much defluxion upon the chest. * * *"

Such practices as excluding fresh air, encasing the patient in heavy thick jackets and using uncomfortable plasters and poultices continued until comparatively recently. In fact, it was not until the beginning of the present century that physicians began to appreciate the value of fresh air and to realize the disadvantages of many of the things that were being done. The changing attitude was expressed in an article by Northrup[2] published in 1904 in which appeared this summary:

"How to Kill a Baby with Pneumonia.—Crib in far corner of room with canopy over it. Steam kettle; gas stove (leaky tubing). Room 80 degrees F. Many gas jets burning. Friends in the room, also the pug dog. Chest tightly enveloped in waistcoat poultice. If the child's temperature is 105, make poultice thick, hot and tight. Blanket the windows, shut the doors. If these do not do it, give coal tar antipyretics and wait."

The recognition of the value of fresh air no doubt made it possible for a few more cases to recover, but the laity were slow in becoming convinced that it was not harmful and the literature would indicate that even physicians in continental Europe have only recently discovered the virtues of the so called "fresh air treatment". Poultices, plasters, and antipyretic drugs continued to be used and nothing happened to change the mortality rate until about 25 years ago. At that time developments started which were later to change the treatment, insofar as it applied to pneumococcus pneumonia in adults, from a purely passive process to an aggressive type of attack which appreciably lowered the death rate for certain types. We refer, of course, to the successful classification of pneumococci into types and the resultant development of specific immune serums. However, for reasons that appear elsewhere, these improvements did not materially help against the very high death rate in early life. The general application of oxygen therapy, which began about twenty years ago, was a worth-while improvement but for several years it was used only in cases where death was so near that it saved few lives. Finally, through sulfanilamide and later sulfapyridine we have a specific which is one of the outstanding sensations of modern therapy.

While these newer developments are gratifying and give promise of markedly lowering the death rate, still we must not permit them to lead us into wrong attitudes. It is just as true today as ever before that we are not called upon to treat pneumonia as a disease, but to treat a patient in whom this disease is raging. No matter how many specific drugs and serums we have, we are in no way relieved from the obligation of giving these patients every possible advantage which good general management can supply in their fight against a dangerous and treacherous disease.

The nature of the present-day treatment makes it advisable, whenever possible, to put every case into a hospital. Small children can generally be moved in an automobile during the early part of the illness without undue increase of risk. Since it is highly essential to conserve the patient's strength by securing plenty of rest and sleep, he should be in a comfortable room with good ventilation and free from disturbing visitors. A calm, tactful nurse who knows how to get along with children is an invaluable aid. All unnecessary laboratory tests and other terrifying procedures should be eliminated and the routine should be so regulated as to interfere as little as possible with rest. One complete physical examination daily is generally sufficient.

Theoretically, the indications are to give enough food to replace the proteins that are being destroyed, maintain body weight and take care of the increased metabolism. However, an impaired ability to digest and assimilate food, along with partial to complete anorexia, means that we must fall far short of such requirements in nearly every case. In the presence of a disease which is apt to run a short course, we are not justified in disturbing the patient to any degree by trying to meet these hypothetical nutritional requirements. The food given should be nutritious, easily digested and contain plenty of salt to help replace the excessive loss of sodium chloride. Milk and its products must be the main dependence and where there is no troublesome abdominal distension it can be reinforced by added amounts of lactose. Tomato juice, sweetened orange juice and pineapple juice can be given freely and, when conditions justify,

cooked cereal, toast, crackers, gelatin, junket, custard and plain ice cream.

We cannot be indifferent about the administration of fluids since the kidneys are working under difficulties, there are increased waste products and toxic substances to be eliminated, the skin is dry and hot and the heat-regulating mechanism is out of balance. A six-months-old baby should have a daily intake of two to two and one-half ounces per pound of body weight; from one to two years, two ounces per pound; from two to six years, a total of three to four pints, and past six years, from two to three quarts. However, if the patient passes good quantities of urine that is not highly colored, he is usually not suffering from lack of fluids regardless of the measured intake. Where sufficient quantities cannot be given by mouth, there should be no delay in giving normal saline by hypodermoclysis and in the more desperate cases where little food is taken or retained, glucose should be given intravenously.

If it is felt that the fever is making the patient restless and adding to his discomfort, cold can be applied to the head and a tepid sponge given, unless these procedures cause more discomfort than does the fever. It should be remembered that an average range of temperature from 101 to 104.5 degrees is to be expected, that this is generally well borne, results in no harm and does not justify depressing the child with antipyretic drugs or disturbing him by applying cold to various parts of his body.

Some drugs must be employed to combat undesirable symptoms. Codeine is very useful to quiet the cough, relieve pleurisy pain and to promote sleep. A six-months-old baby can be given 1/20 to 1/10 grain every three to four hours; at one year, 1/16 to 1/8 grain; at two years, 1/12 to 1/8 grain; over six years, 1/4 grain. For restlessness, where neither cough nor pain are factors, the barbiturates are satisfactory. In using opiates, especially in infants under two years and where there is so much secretion as to make breathing difficult, one should keep in mind the possibility of depressing the breathing and coughing reflex to a dangerous degree. Where the secretions are profuse, atropine is useful, but if these are thick and tenacious it may add to the danger. Steam inhalations, employed with the croup tent or modifications of it, are useful where young infants have much bronchitis and a harassing cough. Digitalis is rarely if ever indicated, but epinephrine is a good emergency stimulant in threatened circulatory failure.

When cyanosis is clearly present, it may be assumed that a sufficient degree of anoxemia exists to impair the function of the heart, kidneys and other important organs and to warrant the giving of oxygen. This assumption is probably erroneous at times, but we question the wisdom of disturbing these very sick children by obtaining more accurate data through measuring the actual oxygen content of the arterial and venous blood. Supplying oxygen often relieves not only the dyspnea, but restlessness, toxic symptoms, abdominal distension and vomiting as well. A carefully regulated oxygen tent is the most satisfactory way of giving it, but these are expensive, troublesome and difficult to operate. The nasal catheter is simple, inexpensive and generally satisfactory if properly used. It must be carefully inserted, securely fastened and changed at regular intervals; also, the flow must be correctly regulated. Oxygen should be used until cyanosis no longer develops when it is withdrawn.

In the presence of anemia and malnutrition, blood transfusions are helpful. The ears should never be overlooked in the daily examination of young children, since otitis media occurs in a high per cent of cases. When definitely bulging, the drums should be incised. Abdominal distension calls for a reduction of the fats, sugars and starches in the diet and it is sometimes better to stop everything by mouth except broth and water. Warm applications to the abdomen, enemata and the passing of the rectal tube are beneficial.

In serum and sulfapyridine we now have two specific remedies. Serum has never been so applicable in young children as it has been for older persons. As previously stated, diagnosis of the pneumonias on an etiological basis during early life has lagged behind because of the difficulty in getting suitable material for cultures and for typing. And then the types of pneumococci which have proven to be most responsive to serum are not common in young persons. For example, Type I is seldom found under two years of age, while Type XIV is very common. And then, to make repeated injections into the vein of

a child who is quite sick is no easy task: it produces terror and apprehension and may result in shock and other undesirable reactions. Nemir[3] has advocated giving serum into the longitudinal sinus of young infants, but the great majority of them must be treated by physicians who do not feel that this can be safely done. If given intramuscularly, very large amounts are required and the results are not satisfactory. Since a good proportion of the cases seen are in the poorer families, the cost is a matter of some concern. And then in the older children between four and fourteen years of age, the death rate from lobar pneumonia without serum treatment has not exceeded 4 to 6 per cent in the past. But in spite of these drawbacks and even though a newer remedy has largely done away with the necessity for giving it, serum is a useful agent which should not, as yet, be abandoned. It can be safely used in conjunction with drug therapy and should, when possible, be given to all pneumococcic pneumonia patients who are gravely ill, to those with positive blood cultures, to those who fail to respond to sulfapyridine within 48 hours and to those infected with types which are known to be highly fatal.

In sulfapyridine, it appears that we have a specific remedy which is applicable to all ages and which can be used against the various types of pneumococci and against streptococci and staphylococci as well. As soon as pneumonia is suspected, a complete blood count should be done and in the absence of positive chest findings a roentgenogram should, if possible, be made. If pneumonia is actually present, specimens of sputum or throat swabs for bacteriologic study and typing should be obtained and a blood culture made. Reimann[4] says that the pneumococcus alone or combined with other bacteria causes between 70 and 80 per cent of all childhood pneumonias, while streptococci and staphylococci account for most of the rest. It seems logical, then, to start the drug in every case as soon as the diagnosis is made without waiting for laboratory reports. A total of 1½ grains per pound of body weight should be given during the first 24 hours, divided into six doses given at four-hour intervals. It is probably better to give one-third of the entire amount at once and then divide the balance into equal doses given every four hours. It is usually well taken mixed with sugar or sweetened fruit juices and it may be incorporated into apple sauce or jelly. At the end of 24 hours, the daily amount can be reduced to one grain per pound of weight and continued until there is no fever for two or three days, the respiratory rate is normal and there are signs of beginning resolution in the lobar type. While the drug appears to have a good margin of safety, still, it should be used with all due precautions. Bicarbonate of soda helps control the nausea and vomiting which sometimes result and the barbiturates are also effective. Occasionally vomiting is so severe as to interfere with treatment. Cyanosis is common, but seldom presents a serious problem. Headaches, dizziness and increased irritability may occur and are sometimes severe enough to interrupt treatment. A morbilliform rash has been reported. Because of the possible development of anemia or leukopenia, a daily blood examination should be made. Unless an abundance of fluids is given, crystals of the drug may be deposited in the kidney and the resultant mechanical irritation cause hematuria.

In the average case, there will be a precipitous drop of temperature within 24 to 36 hours followed by rapid recovery (*Fig. 5*).

More time and study will be required before its true value and its limitations will be definitely known. MacLean, Rogers and Lucas[5] showed through experiments which were confirmed by Long and Bliss[6] that marked differences exist among strains of pneumococci in their response to chemotherapy. Also MacLeod

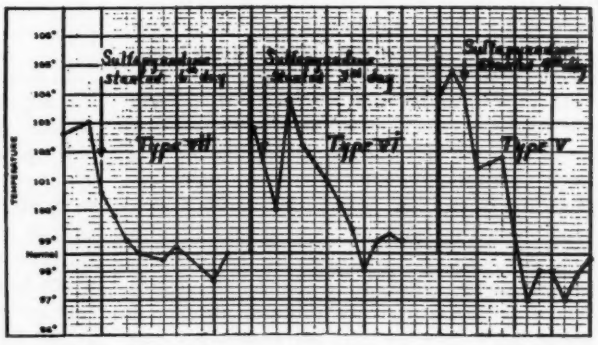

Fig. 5
Temperature drop following the administration of sulfapyridine in three different types of pneumococcic pneumonia.

and Doddi[7] showed that it is possible to develop sulfapyridine fast strains. But results in several fairly large series of cases (particularly those of McKhann[8] and of Hartmann[9]) indicate that it will reduce the death rate to a remarkably low figure.

SUMMARY

The pneumonias of infants and children are not so easily classified bacteriologically as are those of adults and the unsatisfactory clinical division into lobar and bronchopneumonias is still used.

The incidence and mortality rates are both high during the first two years. Bronchopneumonia is the usual variety seen during this time.

There are yearly and seasonal fluctuations in the number of cases in correlation with the incidence of such infections as the common cold, measles, pertussis and influenza.

Good general care, including rest, relief from cough and other disturbing factors, fresh air, diet, fluids and oxygen, continues to be of the greatest importance despite the discovery of specific therapeutic agents.

Because of the obstacles which interfere with successful typing and of the difficulty in giving intravenous injections the success from serum therapy has not compared with that seen in adults.

Sulfapyridine appears to be as applicable to pneumococcus infections in infants and children as it is in those of adults and shows promise of satisfactorily reducing the death rate.

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PRESENT STATUS OF THE ENDOCRINE DISEASES OF CHILDHOOD*

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So much has been written on the endocrine disturbances of childhood that it is impossible for a busy physician to search through the literature and determine where the truth lies. Many data are conflicting and some of the information is presented in scientific terms that are only understood by a small group with special training. What then shall we do?

Intelligent treatment cannot be instituted until a diagnosis is made. Although at first sight this seems to be a very difficult and perhaps prohibitive task, I propose to show that the general practitioner can obtain enough knowledge during his ordinary practice to indicate, first, whether a case is an endocrine disturbance or not, and second, if it is an endocrine dystrophy, to point out which glandular system is probably involved. In some instances enough knowledge can be obtained in the office so that logical treatment is possible. Those cases which cannot be diagnosed by simpler methods should be passed along to clinics organized to perform the more complicated and difficult tests necessary to obtain more special knowledge.

The simplest valuable measurement which anyone can obtain is that of growth of the body which is measured in the terms of height.

Growth.—It is known that the anterior-pituitary gland has among its other functions that of stimulating growth and development. When the gland is functioning normally there is normal growth; overfunction brings excessive growth and underfunction retards growth. Deviation from the average rate of growth does not mean that growth is abnormal, because physiologic, economic, hereditary and other causes can influence the growth of normal individuals. Superior growth is found among the more fortunate classes of the population, and is seen in many of the college youths of today. It is due to better food, hygiene and to fewer illnesses. Retarded growth and dwarfing may be due to underfeeding improperly balanced diets, chronic infections, as well as to renal and cardiac dis-

*Read in Section on Pediatrics, Southern Medical Association, Thirty-Third Annual Meeting, Memphis, Tennessee, November 21-24, 1939.

ease. These causes must be ruled out before abnormal growth can be classified as endocrine. Shortness in stature can be due to lack of the pituitary growth hormone, the hormones of the gonads, adrenal cortex, or of the thyroid, while superior growth results from an excess of these hormones singly or combined.

Thyroid deficiency differs from the others in that it is characterized by disproportionately short arms and legs. The shortness of the arms can be discovered by comparing the length of the span with the total height; these should correspond to within about one inch. When the span is much less it is presumptive evidence of hypothyroidism. Conversely exaggeratedly long arms are said to indicate hypogonadism. Although this may not be of universal application, it is found in some eunuchs.

Bone Age.—The bone age determined by x-ray confirms the gross external measurements of growth. An increase of two or three years above the average bone age is seen in exogenous obesity and its development may be advanced as much as eight years in precocious puberty.

Closure of the epiphyses, which can be discovered by means of the x-ray, indicates that growth in height has stopped.* Premature closing of the epiphyses has been seen in precocious puberty and can result in eventual dwarfing. Backward bone development is found in hypothyroidism, hypopituitarism, hypogonadism, and inanition.

Obesity.—Most cases of obesity are not of endocrine origin, but are due to eating more food than is required by the body. Excessive fat tends to accumulate on the trunk, in the breasts, and around the pelvis. It may be so great that the genitalia seem covered and infantile. Such cases have been wrongly diagnosed as Fröhlich's syndrome.

Since I was one of the offenders in the past, I will go into some detail and describe the characteristics of the true Fröhlich's syndrome. The onset is associated with severe headaches and vomiting, later an otherwise normal child suddenly commences to gain weight very rapidly and may become enormously fat (as did Case W. N.). Later, vision commences to fail. The hair may be scanty and brittle, and the finger nails grow very rapidly. In Fröhlich's original case* optic neuritis eventually developed. Operation showed a cyst which was believed to be an adenoma of the hypophysis. Obesity in the normal child is said to be present when the child weighs more than 20 per cent above the average weight for the height. Since the symptoms associated with Fröhlich's syndrome are lacking in the majority of cases of obesity, it should be easy to rule out this condition by ordinary clinical examination and especially by measuring the height and skeletal age. Recent information suggests that the hypothalamus may be the seat of obesity rather than the pituitary. But this, too, is associated with symptoms not usually seen in normal obesity.

Measurements of the height of obese children show that the majority are slightly taller than the average, and their basal metabolism is almost always higher than the average. This will be referred to in more detail later. The gonads develop normally at or shortly after puberty. A large number of these children were given thyroid in the early days without any benefit, and in some instances they were unable to tolerate even small doses without excess perspiration, increased pulse rate and nervousness. These data can be taken as evidence against underaction of the thyroid and anterior pituitary.

Experience has shown that properly restricted diets will correct exogenous obesity without the aid of drugs or glandular therapy. The evidence against underaction of the glands is superior growth, advanced bone age, and an elevated basal metabolic rate.

Basal Metabolism.—Interpretation of the basal metabolism requires (1) basal figures, (2) an understanding of the physiology of heat production, and (3) the use of standards which take into consideration the body make-up. This has been discussed in detail in other articles. It is now generally accepted that the active heat-producing tissue of the body, mainly muscle, is of primary importance in supplying the heat of the body. If this is granted, it is easy to see why dividing the total amount of heat produced by weight, or any formula which includes weight, will give basal metabolic rates that are lower in fat children and higher in thin children. This is confusing and leads to clinical interpretations which can result in unwarranted conclu-

*A more refined indication of the osteoid activity and consequently the rate of growth can be obtained in highly developed clinics by measuring the blood phosphatase which is proportional to the osteoid tissue. This is high in rickets, for example, and low in cretinism.

*For original description of Frohlich's syndrome taken from the original reports see Bruch, Brunhilde: "The Frohlich's Syndrome: Report of the Original Case." Amer. Jour. Dis. Child. In press.

sions. It is less confusing, and in my experience better, to use standards which predict the total calories for the height and the total calories for the weight, one at a time*; the former gives the heat production of the muscle mass or furnace, and the latter the heat production of the body as a whole. In most instances, the rate that the furnace is burning is the information most desired. In obesity this method of study shows that the heat production is almost always above normal. Although standards which use body surface or weight alone give very dependable results for children with normal body composition, they may lead to erroneous conclusions in pathologic cases.

Marked elevation of the metabolism results from too much thyroid or epinephrine. Hyperpituitarism is accompanied by an elevated metabolism which is usually within normal limits. Low metabolisms are found in hypothyroidism, Addison's disease and hypopituitarism. It is also seen in the late stages of malnutrition and fasting. The elevated metabolism found in exogenous obesity is therefore not consistent with either hypothyroidism or hypopituitarism.

Cholesterol cannot be depended upon in the diagnosis of hypothyroidism in childhood, since it may be normal in untreated cretins. Not enough is known about other factors which control the level of cholesterol in the blood. It may give some information about the effect of treatment, but the evidence obtained from the pulse rate and the blood pressure is equally valuable.

Sexual Development.—Precocious sexual development has been seen in very early childhood. It may result from many different causes: (1) pituitary tumor, (2) tumor at the base of the brain or in the pineal gland, (3) tumor or hyperplasia of the adrenal cortex associated with marked increase and output of the sex hormones. This is most marked in tumors of the adrenal cortex, and finally (4) tumor of the ovary or testes.

The arrhenoblastomas of the ovary cause masculinization, while granulosal cell tumors cause feminization. Testicular tumors and adrenal cortex tumors may cause the appearance of either masculine or feminine characteristics.

The clinical characteristics of precociousness in children are advanced sexual development and premature growth in height associated with a corresponding increase in the bone age. Sometimes the mentality is equally precocious. The basal metabolism is normal for the height.

The diagnosis of the cause of this condition necessitates in addition to the usual clinical data a pyelogram to determine if the kidney is displaced by adrenal tumors; "spot" x-rays of the sella turcica to determine its size; encephalogram to obtain the geography of the brain and to localize tumors at its base, and examination of the eyegrounds to rule out internal pressure. The latter examination is usually negative before symptoms of pressure appear. The diagnosis is reached by the process of elimination. Determination of urinary hormones promises to be a valuable adjunct.

Backward Sexual Development.—There is a considerable range in the age of maturity of the sex glands. In general, it is said to develop earlier in warm climates than in the cold or temperate zones. There may be hereditary or dietary reasons for delay or it may be interfered with by such infections as mumps or hemorrhage. Specific infections are not commonly seen in childhood.

Most of the above data can be obtained easily by the general practitioner. On the basis of them it should be possible to go a long way towards determining whether the condition is due to exogenous causes or whether it is due to faults in the endocrine system. Beyond this point more special knowledge and technic are required, and it is the duty of the practitioner to pass his patient along to special clinics. At present these are limited to a very few of the teaching hospitals. More refined diagnostic aids include delicate chemical tests and measurement of the urinary hormones.

Measurement of the blood sodium, potassium, chloride and nonprotein nitrogen tell a great deal about the action of the adrenal cortical life-maintaining hormone. When sodium and chloride are below normal and potassium and nonprotein nitrogen are in excess, deficiency of this hormone is suggested. Although Addison's disease is very rare in infancy and childhood, it has been encountered and requires these chemical tests for an antemortem diagnosis.

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*Talbot, F. B.: Basal Metabolism Standards for Children. Amer. Jour. Dis. Child., **55**:455 (March) 1938.

The blood sugar level and curve are definitely useful only in diabetes mellitus. This test is not of value to the clinician in other conditions and is only of interest to the investigator.

Urinary Hormones.—At present it is possible to measure the total estrogens (female), which include estrone, estriol and estradiol, by the rat tests, and the total androgens (male), which include androsterone, dehydro-iso-androsterone, *et al.*, by comb test in birds and also by chemical tests. The gonadotropic hormones of the pituitary can be determined by means of rats. Very recently it has become possible to measure the pituitary luteinizing and follicle-stimulating hormones separately. These sex hormones interact in a complicated manner which should be understood by anyone using them to correct abnormalities. Since they are rarely used before puberty, their complicated actions will not be discussed in detail. It is sufficient to record that testosterone and estrin through their depressant action on the luteinizing hormone cause atrophy of the male testes.

At the present time the problem of the general practitioner is first to determine if he is dealing with an endocrine condition or not. Careful analysis of his cases will show that the majority of the cases suspected can be explained satisfactorily by non-endocrine causes.

Simple measurements of the height and the arm span will be found to give important data for or against involvement of the pituitary, thyroid and occasionally the gonads. X-ray plates of the bone age further enlighten us about growth and define more clearly the action of these glands. Obesity in the majority of the cases is apparently of non-endocrine origin and is not the primary symptom of Fröhlich's syndrome. Sex precocious development is an important symptom, but backward development before puberty is not of great significance, since most children attain adult sexual maturity without help.

The basal metabolism measures the activity of the thyroid and is accurate and informative during childhood when standards are used in conjunction with estimates of the composition of the body. The more refined chemical tests and measurement of the urinary hormones are commencing to define more clearly the activity of the pituitary, adrenal cortex, and gonads. As a result, diagnosis of endocrine disturbances is becoming more accurate and treatment more rational and effective.

Treatment.—Only after the diagnosis has been established can intelligent treatment be instituted. When numerous endocrine extracts first became available, they were administered entirely by mouth with comparative safety because with the exception of thyroid they were weak, impure and comparatively inactive. As time went on these substances became purified. Some are active by mouth and many are active subcutaneously. It then became evident that they were no longer benign substances and, in fact, relatively small amounts could cause a marked degree of metamorphosis which could even defeat the purpose for which they were given. A very good example of this is the action of testosterone propionate (a crystalline hormone) which supplies a definite lack in eunuchs, but which by its action of depressing the luteinizing hormone of the pituitary can produce atrophy of the testicle in children and in adults, who still have not reached the physiologic state of eunuchism. The time has arrived when it is no longer safe to use these powerful substances without knowledge of their actions.

Therapy.—Thyroid extract is in very common use and its action generally understood. It should be used only in cases in which definite evidence of hypothyroidism is present. It has been found to be dangerous where there is deficient cortical hormone and its use in such cases has even been followed by death.

Pregnancy urine gonadotropic hormone acts like the pituitary luteinizing hormone. It causes development of the testes. There is considerable evidence that it is useless in those cases of cryptorchidism in which the testes are prevented by anatomical or pathologic abnormalities from entering the scrotum, and that its use merely anticipates in months or years development of the testes which would have taken place later without treatment. It is not safe to use in large doses without seeing the patient at bimonthly intervals, since cases are known in which too much treatment has resulted in abnormal development of the male genitalia. The pregnancy urine gonadotropic hormone is indicated in those boys who have not developed sexually by 15 years of age.

Some of the life-maintaining hormones of the adrenal cortex have been isolated in pure crystalline form (corticosterone, dehydrocorticosterone and desoxycorticosterone). When placed under the skin in pellets they absorb slowly and act efficiently. A combination of the cortical hormone and charcoal has also been found to be physiologically active by mouth. Addison's disease is rare in childhood and the indications for the use of the cortical hormone in other conditions have not been defined.

Estradiol benzoate (estrogen) is active when taken by mouth, by vaginal suppository, by inunction and subcutaneously. It supplies the lack of estrogen, it depresses the pituitary follicle-stimulating hormone, and it stimulates the luteinizing hormone. It is indicated in older girls whose symptoms are associated with a definitely established specific unbalance of the urinary sex hormones.

Testosterone propionate is active subcutaneously and by skin inunction. Its action has been discussed above. It is rarely, if ever, indicated in childhood and may defeat the purpose for which it is given.

Progesterone prepares the uterus for pregnancy and is useful only in adults. The various hormones of the pituitary are being studied intensively. The gonadotropic hormones are only fairly pure and the others are less so. The growth hormone is of most interest to the pediatrician. Although many reports have appeared in which it is said to have caused growth, I have not had any case to date in which I was convinced that the rate of growth was increased. Although it has been used successfully in animals, no human case has yet received doses which correspond in amount to those used in animals.

SUMMARY

After all, very little is known about endocrine glands, despite the great advances made during the past few years. If we are going to use these powerful agents intelligently and safely, it is necessary for us to use all available aids in making a diagnosis so that the proper gland will be treated. I venture to assert that on careful study not less than four out of five of all patients sent to us for endocrine abnormalities will be found to have no endocrine disease.

TETANUS NEONATORUM*

REPORT OF A CASE WITH RECOVERY

By DAVID B. MONSKY, M.D.
Montgomery, Alabama

Tetanus neonatorum was once the greatest single cause of neonatal mortality; it is fortunately now a medical curiosity in well civilized communities. The portal of entry is almost always the umbilical cord, rarely an infected circumcision.[1] The symptoms are those of traumatic tetanus and if the condition is kept in mind there is little difficulty in making the diagnosis.

Other convulsive disorders in the newborn may be differentiated by history and examination. The history is practically pathognomonic, that is, refusal to nurse on account of increasing difficulty in opening the mouth. The condition may appear at any time from the ligation of the cord until healing has taken place.

The treatment consists of: (1) neutralization of the toxin by using large doses of tetanus antitoxin; and, (2) control of the clonic spasms which lead to exhaustion and death. A variety of drugs has been recommended for the control of the nervous symptoms. Among these one finds mainly the antispasmodics, such as eserine sulphate, curare, chloral hydrate, the bromides and intramuscular injections of 50 per cent magnesium sulphate.[2] [3] With the development of tribromethyl alcohol and the newer barbituric acid derivatives, a wider range of therapy is offered. On account of the difficulty in opening the mouth, feeding by dropper or gavage must be resorted to.

The mortality rate of tetanus neonatorum is extremely high; from 90 to 95 per cent of all cases die.[4] Recovery is so unusual that it is deemed worth-while to record this case.

REPORT OF CASE

W. P., a colored male infant 9 days old, was admitted to the pediatric service of St. Margaret's Hospital on August 16, 1939. A colored midwife had attended the delivery. At the age of 6 days the infant refused to nurse and it was noted that it would not open its mouth but kept the lips tightly shut. Attempts were

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made to feed the baby with a nursing bottle, but the mouth could not be forced open widely enough to introduce a nipple. Several spasms were described in which it was stated that the infant "stiffened out all over."

The patient was a well nourished negro male infant. The eyes were tightly closed as was the mouth, the lips being drawn back tightly, giving rise to a typical *risus sardonicus*. There was marked trismus and the mouth could be opened only with application of considerable force. There was some stiffness of the neck. The abdominal muscles were extremely rigid. In fact, the boardlike rigidity was so pronounced that with the infant's head on the examining table the baby could be supported by the feet at a 45 degree angle without any sign of relaxation. The umbilical stump was swollen and there was a slight yellowish discharge. It was noted that the slightest disturbance, such as the noise made by clapping the hands, would cause the infant to go into a clonic convulsion lasting from 30 to 40 seconds. The temperature on admission was 99.6°. The white blood count was 14,000 with 48 per cent neutrophils, 48 per cent small lymphocytes and 4 per cent transitional cells. The Kahn test was negative. A direct smear of the umbilical discharge failed to reveal the presence of any tetanus bacilli.

A diagnosis of tetanus neonatorum, umbilical in origin, was made and 10,000 units of tetanus antitoxin were given intramuscularly. Sodium pentobarbital ("nembutal") grains ¼ was ordered, to be administered every six hours per rectum. A sterile saline dressing was applied to the umbilical stump. An evaporated milk formula was given by dropper. The tetanus antitoxin was continued daily for seven days, 70,000 units being given in all.

There were no subsequent convulsions recorded until August 20, the fourth day after admission. At this time the rectal administration of sodium pentobarbital was increased to every three hours instead of every six hours. After this, no further convulsions were noted. The temperature ranged from 99.6° on admission to 105.8° on the seventh day, after which there was a gradual decline to normal. On August 25, nine days after admission, there was sufficient relaxation for the infant to nurse a bottle. At this time all medication was discontinued. The patient made a complete recovery and was discharged from the hospital on September 2, 17 days after admission. The patient has been seen in the office on three occasions since this time and has remained in excellent condition.

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THE PRESENT STATUS OF THE TUBERCULOSIS SITUATION IN THE SOUTHERN STATES*

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I have selected for consideration in this survey the seventeen constituent units of the Southern Medical Association, believing that the information to be imparted will be of interest to this gathering. I have tried, insofar as I can, to give the latest data possible.

The subject is discussed under four main headings:

(1) Proportion of beds for the tuberculous to deaths from tuberculosis.

(2) The situation as regards the negro.

(3) The use of collapse therapy.

(4) What is being planned for the future.

(1) *Proportion of Beds for the Tuberculous to Deaths from Tuberculosis.*—It is generally accepted by all versed in the epidemiology, morbidity and mortality of tuberculosis that there should be available two beds for cases of tuberculosis for every death from the disease. The South does not meet this requirement. As shown by *Table 1*, in 1938, both the North and West had 2.1 beds per death from tuberculosis, while the South had but 0.7 bed per death. This can be accounted for by two factors:

(a) The relative poverty of the South.

(b) The large negro population, in which death from tuberculosis is three to five times that in the white population.

THE ACCEPTED MINIMUM ADEQUATE "BED TO DEATH" RATIO IS TWO BEDS TO EVERY DEATH

	No. of Deaths (1938)	Total Beds, Incl. Federal Beds	
		Number (1938)	Ratio of Beds to Deaths
The North	31,044	56,340	2.1
The West	7,536	15,467	2.1
The South	24,752	17,885	0.7

Table 1

*Read in General Clinical Session, Southern Medical Association, Thirty-Third Annual Meeting, Memphis, Tennessee, November 21-24, 1939.

Table 2 shows deaths, beds and bed-death ratio in the territory under consideration:

NUMBER OF BEDS FOR TUBERCULOUS CASES COMPARED WITH NUMBER OF DEATHS FROM TUBERCULOSIS

State	No. of Deaths (1938)	Total Beds, Incl. Federal Beds	
		Number (1938)	Ratio of Beds to Deaths
United States	63,332	89,692	1.4
Alabama	1,604	397	0.2
Arkansas	1,003	755	0.8
District of Columbia	588	923	1.6
Florida	987	869	0.9
Georgia	1,612	650	0.4
Kentucky	1,972	1,063	0.5
Louisiana	1,432	799	0.6
Maryland	1,333	1,492	1.1
Mississippi	1,102	522	0.5
Missouri	1,828	2,092	1.1
North Carolina	1,876	2,388	1.3
Oklahoma	1,162	1,125	1.0
South Carolina	917	905	1.0
Tennessee	2,180	1,161	0.5
Texas	4,119	2,463	0.6
Virginia	1,802	1,329	0.7
West Virginia	932	820	0.9
		Average	0.9

Table 2

It is encouraging to note that while in 1937 the death rate from tuberculosis in those units constituting the Southern Medical Association was 63.8 per 100,000 of population, in 1938 it had shrunk to 58.6 per 100,000, and figures for 1939 (as yet, of course, unavailable) should show a further lessening in mortality.

(2) *The Situation as Regards the Negro.*—This is a most important phase of the tuberculosis problem in the South. We are dealing with a relatively ignorant and unhygienic people, a people more subject to the ravages of tuberculosis than are the whites, and a people that, because of their ignorance and their lack of faith in attempts made to better their condition, do not give hearty cooperation. Nash[1] well stresses the importance of employing negro welfare workers and negro physicians in bringing the tuberculosis health program to negroes. He claims (and I am convinced that he is right) that they can put it over more successfully than can the whites. Negro physicians and nurses should have charge, not only of tuberculosis programs, but also of negro case-finding, clinics and sanatoria. Anent this, the following humorous but true story is told: a white contact-seeker was interviewing a negro girl of about 19 whose father was thought to have died of pulmonary tuberculosis. The girl, for some reason, probably fear and suspicion, did not want to admit this. After much questioning and cross-examining, she burst out with: "I don't know what my father died of, but I'm sure it wasn't anything serious!"

Throughout our nation, beds for tuberculous negroes are shockingly lacking, as are clinical facilities for diagnosing the disease in the colored race, for it must be borne in mind that the search must be carried to the negro. He will, of his own initiative, rarely seek the clinic until in an advanced stage of the disease. In the meantime he has been broadcasting the disease among members of his own race and, because of his relationship to us as a domestic, has also been sowing the seeds of infection in our own homes. Tice and Hruby[2] say:

"In the United States an estimated tuberculous population of 900,000 waits on 80,000 beds. In the United States also, a negro population of over 200,000 is dependent on a bed capacity ratio of less than 3 per cent."

Cornely and Allen[3] complain that

"Although the death rate from tuberculosis is higher in the negro than in the white population, particularly in the younger ages, little effort is being made to develop case-finding programs in negro colleges. Only 6 of 35 colleges are doing tuberculin-testing on entering students, regularly, and only one has done this for the past three consecutive years."

I feel that this is an indictment of the white medical profession, which, necessarily, must take the initiative in such matters.

The question of beds for tuberculous negroes is all-important. *Table 3* statistically demonstrates this.

A wide divergence is shown in the number of beds, deaths and death rates per 100,000.

Table 4 gives similar information for the white race.

It is to be noted that the divergence is not so great as in the table dealing with negroes. As will be shown later in this presentation, active steps are being taken to provide more accommodations for tuberculous individuals both white and colored.

(3) *The Use of Collapse Therapy.*—In any modern program of tuberculotherapy, collapse in some form plays such an important role that investigation as to its use indicates, to a great extent, the value of the service that is being rendered both to the patient and to the tax-paying public. It must be borne in mind that

the attitude toward collapse therapy will vary according to the type of patient to be treated. In private practice, with a patient personnel able to "take the cure" for many months, more conservatism will necessarily be displayed than in a state or county institution with a waiting list which demands the most rapid patient turnover possible. While engaged in private practice myself, the figures which I am about to present are those of state, county or municipal institutions, as I feel that it is by such statistics that we should be guided in dealing with the tuberculosis problem as a whole.

BEDS FOR TUBERCULOUS NEGROES. NEGRO DEATHS FROM TUBERCULOSIS AND TUBERCULOSIS DEATH RATES PER 100,000 OF NEGRO POPULATION

State	No. of Beds (1939)	No. of Deaths (1937)	Rate per 100,000 (1937)	Rate per 100,000 (1938)
United States		17,629	140.8	
Alabama	112	1,098	106.2	95.3
Arkansas	36	446	84.4	86.4
D. C.	494	364	214.0	240.1
Florida	160	564	114.8	118.4
Georgia	234	1,004	88.4	90.0
Kentucky	135	411	162.9	184.4
Louisiana		931	118.2	
Maryland	547	639	206.5	176.3
Mississippi	40	941	92.6	78.1
Missouri		498	202.3	
N. Carolina	820	1,148	113.4	100.8
Oklahoma	52	237	129.4	140.5
S. Carolina	267	733	85.6	85.0
Tennessee		844	159.9	168.2
Texas	199	876	96.7	99.1
Virginia	387	878	120.8	149.2
W. Virginia	100	170	137.3	109.4
			Average 131.3	128.0

Table 3

BEDS FOR TUBERCULOUS WHITES, WHITE DEATHS FROM TUBERCULOSIS AND TUBERCULOSIS DEATH RATES PER 100,000 OF WHITE POPULATION

	No. of Beds (1938)	No. of Deaths (1937)	Rate per 100,000 (1937)
United States		50,261	43.3
Alabama	285	680	36.5
Arkansas	720	627	41.3
District of Columbia	429	184	40.4
Florida	709	396	33.6
Georgia	416	568	29.2
Kentucky	928	1,770	66.4
Louisiana		579	43.1
Maryland	945	765	54.9
Mississippi	482	341	33.9
Missouri		1,626	43.5
North Carolina	1,568	773	31.4
Oklahoma	1,073	825	36.4
South Carolina	638	236	23.2
Tennessee		1,601	67.7
Texas	2,264	3,410	64.8
Virginia	942	874	44.2
West Virginia	720	828	47.6
			Average 43.4

Table 4

Figures from 26 institutions in the Southern states giving the percentage of collapse therapy in any form employed during 1938 and the first six months of 1939 show that this type of treatment was resorted to in 47.1 per cent of all cases. I have been unable to get any statistics from Louisiana. The smallest number in any institution receiving collapse therapy was 12.5 per cent. In contrast to this, Dr. C. M. Sharp, of the State Tuberculosis Sanatorium at Alto, Georgia, writes under date of September 6 of this year:

"I wish to say that only patients who are suitable for collapse therapy are admitted to the sanatorium, except in those cases in which a differential diagnosis is necessary to rule out tuberculosis. * * * We find that, with approximately 8,000 cases of known tuberculosis in the State and only 300 beds at the State Sanatorium, it is necessary that collapse procedures be carried out on all patients admitted, and continued after they return to their homes."

The medical director of a county sanatorium who reports but 21 per cent of patients treated by collapse therapy, says:

"The percentage may seem a bit low; perhaps it can be explained by two things: we have no waiting list and cases can be admitted as soon as they are diagnosed. This gets many minimal cases into the sanatorium and we believe that a minimal case should, usually, be given an opportunity to heal himself. Then, on the other hand, as a result of a sort of 'mopping up' program, we get a lot of hopelessly advanced cases, aged cases, and cases in all respects unsuited for collapse therapy."

The superintendent of a sanatorium in which 80 per cent of the patients receive collapse therapy writes as follows:

"This figure (80 per cent) doubtless is higher than that of many institutions, but at the present time on account of our meager bed capacity, we select our patients with the view of rendering their sputum negative as rapidly as possible, so that our bed turn-over is relatively fast."

The superintendent of one of the best state sanatoria in our territory, whose percentage of collapse therapy is but 23, thus comments on the figures:

"We are getting so many advanced cases and so many old people past 60 that it is impossible to increase the percentage beyond this point."

Surely something must be wrong with such a situation. You would all be surprised were I to give you the name of this institution.

Comparing the percentage of collapse therapy in the South with some of the large institutions in the North and East, we find that our sanatoria are not lagging behind.

PERCENTAGE OF PATIENTS RECEIVING COLLAPSE THERAPY IN VARIOUS INSTITUTIONS

Hudson County, New Jersey, Sanatorium	44
Sea View Hospital, Staten Island, New York	40
Chicago Municipal Hospital (average over 5-year period)	46.6
Bellevue Hospital, New York	18.8
Average in 26 Southern Institutions	47.1

Table 5

The figures from Bellevue Hospital need some qualification. In sending them to me, Dr. J. Burns Amberson, Jr., head of the Tuberculosis Service, writes:

"The figure indicating the number of patients who receive collapse therapy here has very little meaning. Last year five hundred and twelve patients out of two thousand seven hundred and eleven tuberculous patients admitted received this treatment in some form.

"We act as a clearing house and while suitable cases are kept here for treatment, many more are sent along to other hospitals with the recommendation that some special treatment be instituted after a suitable period of observation and rest treatment."

I do not like the practice in vogue in some of our states of letting the home physician come to the sanatorium, showing him how refills are given in cases of pneumothorax, letting him give two or three himself, then purchase a pneumothorax apparatus and continue collapse on his patients when they return home from the institution. I object to this idea because there is far more to pneumothorax therapy than the mere insertion of a needle into the pleural cavity. Judgment and experience are required in conducting any case, yet I can readily see that with an insufficient number of beds, the patient turnover must be speeded up and the procedure referred to above is probably the best available, although it is definitely a makeshift proposition.

(4) *What is Being Planned for the Future.*—Much has been done throughout the South in the antituberculosis crusade, but much remains to be done. The South is by no means asleep on the job, as is shown in abbreviation in *Table 6.*

SCAFFOLDING OF WHAT IS BEING DONE AT PRESENT TOWARD IMPROVING TUBERCULOSIS SITUATION IN THE SOUTHERN STATES

Alabama—Group of 3 counties opened 40-bed sanatorium in June, 1939.
Arkansas—Legislature passed bill appropriating $1,500,000 to increase capacity of the two state sanatoria. Construction started on new unit at State Sanatorium for Negroes, increasing bed capacity from 31 to 150.
District of Columbia—$600,000 PWA grant approved for new tuberculosis unit at Freedmen's Hospital.
Georgia—Bed capacity of State Sanatorium at Alto recently increased from 250 to 325. New unit under construction: 300 beds.
Kentucky—Kenton County Tuberculosis Hospital opened: 17 beds. Plans afoot to double capacity. Two-story negro unit completed at Julius Marks Sanatorium at Lexington.
Maryland—New surgical unit at Mt. Wilson Sanatorium for lung surgery for white and colored. Negro sanatorium, 275 beds, will shortly have 130 additional beds.
Missouri—Robert Koch Hospital has $2,000,000 building program, bringing bed capacity from 540 to 1,000.
North Carolina—Third state tuberculosis sanatorium is to be built at Wilson; 330 beds, equally divided between white and colored.
Oklahoma—75 beds added to Choctaw-Chickasaw Sanatorium at Talihina.
South Carolina—Hopes for 100 additional negro beds at State Sanatorium in 1940.
Tennessee—New 70-bed addition for negroes at Pine Breeze Sanatorium, Chattanooga.
Texas—Addition of 72 beds to Negro Sanatorium at Kerrville. State Sanatorium in Tom Green County, 25 more children's beds and 75 more for adults. Three sanatoria building of 40, 50 and 20 beds, and one of 20 beds at Laredo for Mexicans.
Virginia—Piedmont Sanatorium for Negroes being increased by 100 beds; eventual bed capacity, 250. Blue Ridge Sanatorium to be increased by 100 beds. Catawba Sanatorium to be increased by 60 beds. Roanoke Sanatorium to be opened about January 1, 1940, will have 69 beds.
West Virginia—Piedmont Sanatorium recently completed a 176-bed unit, and at this moment another new unit of 153 beds should be in operation.

Table 6

In Alabama a group of three counties opened a 40-bed sanatorium in June of this year.

Arkansas is very active. A bill has been passed by a special session of the General Assembly authorizing $1,500,000 for increasing the capacity of the two state sanatoria. Construction has started on new units at the McRae Memorial Sanatorium at Alexander, the State Sanatorium for Negroes; its bed capacity will be increased from 31 to 150.

In the District of Columbia a $600,000 PWA grant has been approved for a new tuberculosis unit at Freedmen's Hospital.

In Georgia, the State Tuberculosis Sanatorium at Alto has recently been increased in capacity from 260 to 325 beds. At the present time there is under construction an addition to the sanatorium which will hold 300 beds, thus practically doubling its capacity. Plans are being made for increasing the bed capacity of the

negro sanatorium from 93 to 190. A total bed capacity of 740 is expected by the middle of 1940.

In Kentucky, the Kenton County Tuberculosis Hospital at Covington has been opened with a bed capacity of 17. Plans are under way for doubling its capacity. A two-story negro unit has been completed at the Julius Marks Sanatorium at Lexington. It was scheduled to be opened about November 1.

Louisiana is not faring so well. A colleague, who is in a position to know, writes under date of September 25, 1938, as follows:

"As to accommodations for tuberculous patients in Louisiana, the present situation is briefly as follows: A little over a year ago plans were drawn for a 1,200-bed tuberculosis hospital in or near New Orleans, as part of the Charity Hospital system. These plans have been shelved temporarily because of

(1) Difficulties in obtaining a site.

(2) The 'Louisiana scandals.'

"There is also a comprehensive plan for the State as a whole to have five district hospitals with appropriate clinic facilities totaling 1,700 beds. This plan at present is under the aegis of the State Public Welfare Department, but there is some difficulty about the ultimate control. This is the plan for which we are working at present. It would mean about a 700-bed hospital for the New Orleans district, to be integrated with the present facilities of Charity Hospital, where there are now beds for 300 patients."

In Maryland, Dr. Victor Cullen tells me that a new surgical unit is being added to the Mt. Wilson Sanatorium to take care of lung surgery for both white and colored. The negro sanatorium, which now has a capacity of 275, within a month will have 130 additional beds, thus raising its capacity to 405 beds; and money has been appropriated to start work in the spring of 1940 on 100 additional beds, with quarters for colored physicians and nurses. All these additions will, when completed, give Maryland one bed per death for negroes and 2½ beds per death for her total population. These are the best figures for any state in the area under consideration, and Maryland is to be heartily congratulated.

In Missouri, the Robert Koch Hospital at Koch has a $2,000,000 building program, which will bring the capacity from 540 to 1,000 beds.

North Carolina is going to build a third sanatorium, which will be at Wilson. It will have 330 beds, 165 for white and 165 for colored. This will bring the total negro beds in the State to 955. As the negro mortality from tuberculosis in North Carolina is approximately 1,200 annually, we are still well behind our necessary quota of beds.

Oklahoma has added 75 beds to the Choctaw-Chickasaw Sanatorium at Talihina; and in Tennessee, there is a new 70-bed building for negroes at Pine Breeze Sanatorium, Chattanooga, bringing its capacity up to 265 beds.

South Carolina is working for the addition of 100 negro beds at the State Sanatorium at State Park.

Texas shows many and varied activities, to wit: addition of 72 beds to the negro sanatorium at Kerrville is completed, giving the institution a bed capacity of 173. Since 1938, when the State Sanatorium in Tom Green County had 900 beds, the children's department has been increased by 25 beds, and probably by now a new building is in use which will increase the adult bed capacity by 75, raising the total bed capacity to 1,000. In Travis, McLennan and Nueces Counties, sanatoria of 40, 50 and 20 beds, respectively, are either under construction or in operation; and at Laredo there is a much needed 20-bed hospital for the treatment of tuberculous Mexicans. Miss Pansy Nichols, the very efficient executive secretary of the Texas Tuberculosis Association, writes me that the chief need in the State is for more beds for advanced cases. To my surprise, she states that there are annually about 4,000 deaths from tuberculosis in Texas and only about 2,800 beds. It would be interesting to know what percentage of these 4,000 deaths are Texans who would legitimately become charges of the State and how many are health-seekers from other portions of the nation.

Virginia is not lagging. Dr. J. B. Nichols writes:

"The capacity of the Piedmont Sanatorium for negroes, with the addition that is now being built, will be increased by at least 100 beds. This will give them a capacity of 250 beds for negroes."

The Blue Ridge Sanatorium will be increased by 100 beds. Catawba Sanatorium will be increased by 60 beds. Roanoke is building an institution which is expected to be opened about January 1, and which is to have a capacity of 69 beds.

West Virginia has recently completed a 176-bed unit at Piedmont Sanatorium and at this moment another new unit of 153 beds should be in operation.

We see by this rapid review that the South as a whole is tuberculosis conscious, and con-

scious to the extent that it is willing to spend considerable money in an effort to control the disease. In all, there are 26 separate tuberculosis projects which have recently been completed, are under construction or are about to be started. I am sure that there are many more that I have been unable to discover. Beds, more beds and still more beds are needed for, as Tice and Hruby express it:

"The extramural case, the sanatorium-deprived individual, denied institutional care owing to lack of accommodations, still constitutes the crux of the tuberculosis problem."

The South is on the march against tuberculosis, and I prophesy that in another decade our equipment to fight the disease and our results in its control will compare favorably with any in the land.*

*For valuable information, I am also indebted to Miss Isabel McCaffrey, of the Statistical Department of the National Tuberculosis Association, to the State health officers of the sixteen states and one district, and the superintendents of well over a score of sanatoria for the tuberculous located throughout the South. Their names being too numerous for me to thank them individually for their assistance, I here do so collectively.

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213 Arcade Building

MORTALITY IN PSYCHOTIC ILLNESS*

A STATISTICAL STUDY OF THE GEORGIA STATE HOSPITAL SINCE THE BEGINNING OF THE PELLAGRA RESEARCH PROGRAM OF THE UNITED STATES PUBLIC HEALTH SERVICE IN 1914

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The series of events which have made the mortality statistics of the Georgia State Hospital appear to me sufficiently significant to be worthy of your attention for these few minutes had their beginning in 1914, when Dr. William F. Lorenz, of Wisconsin, was appointed by the United States Public Health Service to survey and study the pellagra situation at this Hospital. The study was undertaken at the request of the Board of Trustees of the Hospital and of its late Superintendent, Dr. L. M. Jones.

*Chairman's Address, Section on Neurology and Psychiatry, Southern Medical Association, Thirty-Third Annual Meeting, Memphis, Tennessee, November 21-24, 1939.

At this time modern dietetics was still largely a laboratory interest. In 1906, Hopkins of Cambridge had advanced the idea of accessory food factors and in 1911 Funk of Columbia had coined the word vitamin, but the practicing physician, where diet in disease was concerned, was still relying mainly on prohibitions: no red meat in kidney disease, no sugar in diabetes.

Pellagra was a subject of intense interest just at this time in public health circles throughout the country. The battle of opinion as to the nature and origin of the disease was at a high point. In the same year that Lorenz came to Georgia, the program of the annual meeting of the Southern Medical Association contained a symposium on pellagra, at which the infectious and dietetic theories of origin were each ably defended. Among the essayists was Y. A. Little,[1] a member of the staff of the Georgia State Hospital. The title of his paper was "The Dietary Treatment of Pellagra, with Report of Eleven Cases." In this paper, Little related that five years previously he had been forced to feed by tube a patient who was apparently in the last stages of pellagra when admitted. For the feeding he had used raw eggs incorporated in fresh cow's milk. Beginning with small amounts, he had been able to increase the feeding to six eggs and two quarts of milk daily. The patient made a rapid recovery. Little writes: "The value of this form of feeding was apparent from the beginning." Since that time, he adds, the egg and milk dietary plan had been carried out by himself and the other members of the staff in treating pellagra in the hospital as far as had been practicable, but not until the spring of that year had he been able to apply the treatment in a systematic way and keep a record of his cases. His paper contains eleven additional case reports.

This bit of not-too-ancient history I have recalled in order to show that when Lorenz arrived at the Georgia State Hospital he found dietary consciousness in the treatment of the psychotic already alive in this institution. Lorenz himself inclined to a dietary explanation of pellagra, but that he arrived with an open mind is indicated by the fact that he brought with him a cage of monkeys and entered on inoculation experiments. Following some type of inoculation one of the monkeys developed, among other symptoms, an erythema of certain parts which aroused suspicion, but other monkeys, similarly inoculated, failed to react, and all further efforts at transmission of pellagra proved equally futile. More

successful were Lorenz's dietary experiments on pellagrins and he early became convinced of the curative value of a diet rich in protein: fresh meat, eggs, milk and legumes. With pellagra continually recurring or finding fresh victims within the institution, the next step was, logically, to extend a high protein diet to all of the hospital inmates as a preventive measure. The experiment being successful, the dietary plan was made standard. It has thus come about that the entire patient population of the Georgia State Hospital has for a series of years enjoyed a highly nutritious diet, and that this hospital was early inoculated with an active interest in scientific dietary research.

Research on pellagra has been continuous at the Georgia State Hospital since the arrival there of Dr. Lorenz in 1914. Dr. Joseph H. Goldberger directed the work for the United States Public Health Service until his death. He was ably assisted by Dr. W. F. Tanner and, later, by Dr. G. A. Wheeler. Dr. Wheeler introduced dried brewers' yeast as a vitamin supplemental feeding in the treatment of pellagra about 1926. Now carrying on for the United States Public Health Service are Drs. W. H. Sebrell and R. E. Butler, with nicotinic acid as the core of further research.

My own approach to the recognition of the importance of the role of diet in psychotic illness was through the pathologic rather than the research laboratory. In the same year that Lorenz initiated the pellagra research program at the Georgia State Hospital, I was beginning the study of medicine. Two years later I entered the laboratory of this hospital to study clinical pathology during my summer vacation. In 1920, I returned to this same laboratory as pathologist, feeling then, as I do today, that the young practicing physician needs to know something of morbid anatomy. The technicians of this laboratory were licensed embalmers and all patients dying in the hospital passed under our hands. This circumstance had probably its part in turning my interest in the direction of mortality rates. But be that as it may, during the year that I served as pathologist at the Georgia State Hospital I made the discovery that the mortality rate of this hospital was remarkably low compared with that of the state hospital where I had spent the previous year, or with that of another large state hospital which I had visited on my way to my new position. Since leaving the Georgia State Hospital I have continued to watch its mortality rates and have seen a fairly consistent though not wholly regular decline.

The coincidence of a favorable death rate with an actively pursued, scientifically based anti-pellagra program need surprise no one; yet the figures in this case are so striking that I believe their exposition is warranted.

Table 1 gives the patient population, the admissions, readmissions, discharges, deaths, and death rate per 1,000 patients under treatment, as taken from the records of the Georgia State Hospital for each year from 1914 to 1936, inclusive, a period of twenty-three years.[2]

In calculating the death rate per 1,000 patients under treatment, in this and the following table, the total number of patients under treatment for any year is found by adding to the patient population of January 1 of that year the admissions and readmissions occurring within the calendar year which follows.

Table 2 gives the patient population, admissions, discharges, deaths and death rate per 1,000 patients under treatment for the composite of the

GEORGIA STATE HOSPITAL

Year	Patient Population	First Admissions	Readmissions	Deaths	Discharges	*Rate per 1,000 Patients Under Treatment
1914	3576	1113	314	668	682	133
1915	3566	1341	342	628	763	119
1916	3947	1059	272	460	803	87
1917	4015	942	277	576	588	110
1918	4070	1035	216	696	661	131
1919	3962	921	283	474	640	92
1920	4171	888	320	464	447	88
1921	4349	761	228	421	851	78
1922	4598	652	205	283	697	54
1923	4553	915	242	350	529	61
1924	4244	922	229	406	526	75
1925	4447	954	221	396	511	71
1926	4640	954	226	432	572	74
1927	4848	967	254	434	569	70
1928	4936	831	259	389	646	64
1929	5069	947	282	453	574	72
1930	5291	752	200	423	553	67
1931	5320	897	255	346	510	54
1932	5577	667	197	295	532	47
1933	5688	793	284	340	457	50
1934	5948	1086	293	524	453	71
1935	6146	1159	334	380	678	49
1936	6484	1473	345	451	760	54

*Death rate per 1,000 under treatment is patient population of January 1 plus admissions and readmissions during succeeding year.

Table 1

state hospitals of all states reporting, for the corresponding years so far as available in the United States Census reports.[3]

The figures in *Table 3* are drawn from the two previous tables, but are arranged for quick comparison of the mortality rates of the Georgia State Hospital with the corresponding rates of the composite of state hospitals of the entire country.

In *Chart 1* one may follow still more easily the course taken by the declining mortality rate of the Georgia State Hospital from 1914 to 1936. It is possible to offer explanation for some of the irregularities of this course. There is a sharp decline from 1914, the year in which Lorenz started the special antipellagra program at the hospital, to 1916, after which the mortality rate rises steeply in both 1917 and 1918. The high rate for 1917 may reflect the confused conditions attendant on our entry into the World War, with the necessary adjustment to high food and fuel costs, changes in personnel as physicians and nurses were called from civilian to military service, and so on, while the still higher rate for 1918 may fairly be assumed to reflect the severe influenza epidemic of that year. From 1918, with 131 deaths per thousand, the mortality drops to a low point of 54 per thousand in 1922. This rapid decline may well be in part a reaction from the excessively high rates preceding, but an explanation may probably be found also in the fact that it was just at this time that Goldberger was pushing his high protein diet in the attempt to control pellagra in the hospital and the patients were accordingly receiving a relative abundance of milk, eggs, and meat. After a series of years in which the mortality rate wandered without definite trend in the 60's and lower 70's, it again took a definite dip, passing its previous low point of 54 per thousand in 1931

COMPOSITE OF UNITED STATES CENSUS REPORTS

Year	State Hospital Patient Population	Admissions	Discharges	Deaths	*Deaths per 1,000 Patients Under Treatment
1910	159096	45876	21255	15512	79.8
1922	229837	63808	34281	21602	84.0
1926	246486	65348	32036	25315	81
1927	256848	69318	34662	24692	76
1928	264226	73388	36373	26492	79
1929	272252	68867	37432	27866	81
1930	280251	71363	38538	26923	75
1932	305031	83460	40595	27210	70
1933	321824	86407	41898	27517	69
1934	332094	87647	46383	29098	70
1935	342167	89964	46090	29297	71
1936	353604	94877	48420	32004	72

*Rate per 1,000 based on daily population plus discharges and deaths.

Table 2

DEATHS PER 1,000 PATIENTS UNDER TREATMENT

Year	Georgia State Hospital	Composite of State Hospitals
1914	133	—
1915	119	—
1916	87	—
1917	110	—
1918	131	—
1919	92	—
1920	88	—
1921	78	—
1922	54	84
1923	61	—
1924	75	—
1925	71	—
1926	74	81
1927	70	76
1928	64	79
1929	72	81
1930	67	75
1931	54	—
1932	47	70
1933	50	69
1934	71	70
1935	49	71
1936	54	72

Table 3

DEATH RATE PER 1000 PATIENTS UNDER TREATMENT FOR GEORGIA STATE HOSPITAL AND FOR COMPOSITE OF STATE HOSPITALS IN UNITED STATES

Chart 1

and continuing downward to reach 47 per thousand in 1932. In the six years beginning in 1931 the death rate of this hospital has not been above 54 per thousand except in one year. In 1934 it shot up to 71. In this year certain changes were being made in the administration of the hospital in an effort toward economy; the nursing staff was reduced and there were a few months in which the milk supply was reduced 50 per cent, coupled with a lowering of the food content of the bread by changes in the method of baking. It is noteworthy that when the previous diet was restored, the death rate fell; for the following year it was 49 per thousand.

The broken line on the chart (*Fig. 1*) shows the course of the mortality rate for the composite of state hospitals of the United States from 1926 to 1936, inclusive, as taken from the figures of the United States Census reports. The only other year of the twenty-three-year period under consideration for which a composite rate is available is 1922, when it was 84 per thousand. This rate is indicated in its place on the chart by a small cross, disconnected from the broken line. In 1910, four years previous to the year in which our study of the Georgia State Hospital mortality rates starts, and hence not shown on the chart, the mortality rate for the composite of state hospitals was 80 per thousand. It would be unsafe to assume that the course of the mortality curve for the composite of state hospitals between 1910 and 1922, a period for which we have no yearly rates, took the form of a straight line, and the same may be said of the curve for the shorter period, 1922 to 1926. For purposes of comparison we are therefore limited to the eleven-year period, 1926 to 1936. Here the chart shows a distinct decline in the death rate for the composite of state hospitals, but a much greater decline in the rate for the Georgia State Hospital. In each case the decline is first evident in 1930. In this eleven-year period the highest mortality rate of any year for the composite of state hospitals was 81 per thousand in 1926 and again in 1929; the lowest was 69 per thousand in 1933. In the same period, for the Georgia State Hospital the highest rate was 74 per thousand in 1926 and the lowest 47 per thousand in 1932. It is, of course, true that the smaller the figures dealt with, the greater will be the fluctuations, but there appears to be some reason for thinking that we are here dealing with a trend rather than with mere fluctuations.

For the year 1935, the Georgia State Hospital had the lowest mortality rate recorded in the census returns of that year for any state. The Georgia rate was 49 per thousand, as against 71 per thousand for the composite of state hospitals.

In 1936, with a mortality rate of 55 per thousand patients under treatment in the State Hospital, Georgia stood fifth lowest, better figures being shown only by New Mexico, Nebraska, the District of Columbia and Rhode Island. The lowest rate for that year was 43 per thousand, shown by New Mexico; the highest rate for any state hospital was 98. For the country as a whole, the death rate in state hospitals for 1936 was 72 per thousand.

I am well aware of the quicksands offered by the science of statistics to the feet of the unwary, and I know that in the interpretation of statistics duly verified facts are all too likely to assume distorted forms and mislead even the cautious. I have referred to the improved general dietary which has been a prominent part of the antipellagra program in the Georgia State Hospital and have put forward the suggestion that this more nutritious diet has played a significant role in the reduction of the general death rate of the hospital. But there can be no doubt that numerous other factors have contributed to this decline. I would mention especially the pavilion treatment of tuberculosis, routine smallpox and typhoid vaccinations, sanitary sewerage, adequate and clean water supply, sanitary control of milk, twenty-four-hour available steam heat, refrigeration, rural location with spacious grounds and fresh farm produce, occupations and diversions, nursing, modern medical and surgical attention, and so on. But the inception of many of these advantageous features antedates my earliest figures; most of them, moreover, have suffered some invalidation from political exigencies and the benefits to be expected from them have been to some extent offset by a constant overcrowding of patients and a too meager staff of physicians and nurses, not to mention the handicap imposed by inadequate appropriations.

Statistically, the largest contributing factors in this mortality decline at the Georgia State Hospital have been the elimination of pellagra and the preservation of the paretics through detection and suitable treatment.

In 1914, the year in which the pellagra studies of the United States Public Health Service at the Georgia State Hospital were initiated, 83 pel-

lagrins were admitted to the hospital and 365 cases of pellagra were reported as developing in the hospital. Among 668 deaths in a patient population of 3,576 in that year, 190, or 30 per cent, were due to pellagra, which stood first as cause of death, with tuberculosis a distant second, with only 88 deaths.

In 1914 the death rate from pellagra was 38 per thousand patients with psychotic illness; by 1922 it had fallen to 12, in 1936 it was 0.

Since pellagra was both developing and recurring at a time when the diet was being directed against it, it is reasonable to assume that there were subpellagrous nutritional disturbances, such as were recently reported by Cleckly, Sydenstricker and Geeslin,[4] and that these were being benefited by application of the new nutritional concepts. In 1927 I had myself made sufficiently numerous and convincing observations on the nutritional effects of dried brewers' yeast in tube feeding cases and drug psychoses to warrant, I felt, the preparation of a paper on the subject, which I[5] read before the Medical Association of Georgia.

In 1922, at the Georgia State Hospital, 10 deaths per thousand psychotic patients were recorded as due to general paralysis; in 1936 the rate of deaths from this cause was 8.3, a reduction of 1.7 deaths per thousand. While this reduction, stated thus, seems insignificant, it nevertheless represents a tripling of the life expectancy of paretics and is coincident with a recovery rate of 28 per cent.

The reduction in the death rate from pellagra and paresis, considered together, at the Georgia State Hospital has been 13.7 per thousand between 1922 and 1936.

In 1936, as we have seen, the death rate per thousand for the composite of state hospitals of the country was 72 and that for the Georgia State Hospital 54. The Georgia State Hospital thus had 18 fewer deaths per thousand than the composite of state hospitals. The question naturally arises: how much of this difference can be accounted for by our outstanding success in Georgia in eliminating pellagra as a cause of death at our State Hospital and by preserving the lives of paretics, and how much remains to be explained on other grounds? To eliminate statistically the results of our antipellagra and anti-paresis efforts since 1922, we need only subtract 13.7, the reduction achieved in the combined pellagra and paresis death rate at our State Hospital, from 18, the difference between the 1936 death rate of the composite of state hospitals and that of the Georgia State Hospital. This subtraction leaves a difference of 4.3 deaths per thousand, still seeking explanation.

While I hold that improvement of the diet has been a factor of prime importance in reducing the general death rate of the Georgia State Hospital, I am not convinced that it is the most important factor in this unexplained difference of 4.3 deaths per thousand between the mortality rates of this hospital and the composite of hospitals. In any comparison between hospitals, differences in composition of patient population enter into the question. Could it be shown that any considerable number of the state hospitals making up the composite had steadily been taking in a larger and larger proportion of cases of senile dementia and psychoses associated with cerebral arteriosclerosis, it would be possible to explain a portion of the difference in death rates on this ground. How large a portion would depend on how widespread and how marked this trend had been. A large proportion of the senile and arteriosclerotic in any state hospital would certainly raise its mortality rate. In parts of the country where new hospital construction has more closely kept pace with demand than has been the case in Georgia, a liberalizing of the admission policy in respect of these types of patients might well be a fact. Hutchings[6] has, indeed, recently pointed out that in New York State in the last twenty-five years first admissions for senile dementia have doubled and for the arteriosclerotic group have increased fourteen times. The mental hospitals, he complains, are suffering from over-popularity! In Georgia, our hospital has always been too crowded to give asylum to many patients of these types.

Reducing the death rate has the effect of increasing the patient population of a mental hospital. For instance, had the mortality rate of the Georgia State Hospital averaged 80 per thousand between the years 1920 and 1936 instead of 63, as it actually did, and had the admissions and discharges remained unaltered, the patient population would have increased by slightly less than one thousand instead of two thousand, which was the actual increase. Had the hospital maintained its own mean death rate of the years 1914, 1915 and 1916, which was 112 per thousand, there would have been by 1936 an actual decrease, amounting to 880 patients, in the patient population. It is evident that other factors than increase of insanity are influential in increasing the population of our mental hos-

pitals, and that some of these factors are to be welcomed as representing scientific achievement.

SUMMARY

The mortality rate of the Georgia State Hospital has shown a striking decline since the initiation of a pellagra research program at this hospital by the United States Public Health Service in 1914. During the period of eleven years, 1926 to 1936, inclusive, for which figures representing a composite of the mortality rates of the state hospitals of the entire country are available, the mortality rate of the Georgia State Hospital fell more rapidly than the composite rate. The author feels that the improved diet given the patients in the effort to prevent pellagra has been largely instrumental in this rapid decline and in the low mortality rates which have been maintained at this hospital for a series of years.

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A PROGRAM FOR THE CONTROL OF SYPHILIS*

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Until recent years, the control of syphilis was seriously impeded by the public attitude of refusing to accept syphilis as a public health problem, and the refusal of the powers that be to open the channels of public education to a frank discussion of this problem. In the face of this situation public ignorance prevailed and quackery in treatment was rampant. The medical profession was denied an opportunity of demonstrating its ability to control a disease for which it had a specific treatment which was almost unique in the field of medicine in its ability to control infectiousness and effect a cure under favorable circumstances. Public health departments found a deaf ear turned to their pleas to appropriating bodies for funds with which to provide a community program for syphilis control. As a result, the interest of the profession lagged, and efforts at control by health departments became desultory, as few had the desire to become martyrs to the cause by forcing these barriers of ignorance and prejudice.

The past five years have seen a remarkable about-face in the public attitude towards syphilis control. Those of us who had come to grips with the barrier on previous occasions without success were astounded by the rapidity with which resistance evaporated. Syphilis control suddenly "belonged" to the family of publicly accepted health problems. Appropriating bodies began to demand indignantly why something was not being done about the matter, and proceeded to appropriate funds for this purpose at a rate which made it difficult for trained and qualified personnel to be made available to keep pace with the demand. The spark for these appropriations was provided by federal grants to states for syphilis control under the Lafollette-Bulwinkle Bill of 1937. To date these grants have been used in establishing new syphilis programs where none existed and in reinforcing previously existing programs. The Memphis-Shelby County Venereal Disease Control Program was established with the aid of one of the federal grants mentioned above, and some of its aims and policies, with special reference to the medical profession, will be discussed here.

Circumstance makes it necessary to refer in some instances to aims instead of actual achievement, since the program is relatively young, having been inaugurated in March, 1939, and sufficient time has not yet elapsed to place certain policies upon a firm foundation of experience. However, these policies have individually been in successful operation elsewhere, and there is every reason to believe that they will prove practical and successful in local operation.

In attempting to obtain a perspective upon the situation which was encountered in setting up a syphilis control program, it became evident early that a problem of tremendous proportions existed in Memphis and Shelby County. Forty per cent of the combined city-county population is colored, and a number of group serologic sur-

*Chairman's Address, Section on Public Health, Southern Medical Association, Thirty-Third Annual Meeting, Memphis, Tennessee, November 21-24 1939.

veys of young colored adults have revealed a prevalence of syphilis of over 30 per cent in these groups.

In deciding upon an approach to the problem, it would have been a relatively simple matter to inaugurate a blood-testing campaign and uncover thousands of previously untreated serologically positive cases and place them under treatment. It was felt, however, that such a procedure would involve a dissipation of effort and funds which would probably result in little achievement in lowering the infection rate in the community. Since the latter was the ultimate aim of the program, it was decided to conserve effort and direct it where it might accomplish the most in lowering the infection rate by placing the emphasis in the program upon communicable syphilis rather than upon the broad problem of serologically positive syphilis, most of which represents syphilis in the late stage of the disease. From a public health standpoint the treatment of late cases of syphilis, that is, those who have had their infections for over four years, is an individual medical problem rather than a communicable disease problem, and must be relegated to a position of importance secondary to that of the highly infectious early case of syphilis, upon whose discovery and treatment depends the entire success of a syphilis control program. Late cases of syphilis are not denied treatment, and the treatment of all phases of late syphilis is provided for in the program, but efforts on behalf of early syphilis take precedence, as unless care is taken late cases tend to overload the clinic and leave little time available for the more important early cases.

It is felt that while late cases of syphilis are undoubtedly benefited individually by treatment and should not be neglected, that an attack directed primarily upon the problem of the early case will in the course of time result in a gradual elimination of late cases, since all late cases represent either poor epidemiology or poor treatment at an earlier stage of the disease. When the time arrives when budget and personnel are increased to the extent where the syphilis problem can be attacked in its entirety, then will those phases of the problem which are not a communicable disease issue be raised to a position of importance on a par with the early case. Until that time arrives, however, a selected approach envisioning syphilis as primarily a communicable disease problem seems justifiable.

With this objective in mind, a program was therefore set up in which special consideration was given to the discovery and treatment of early cases of syphilis and cases of syphilis in pregnancy, with a view to controlling infectiousness. In setting up standards of treatment for the control of infectiousness in early cases, it was decided to accept as a minimum twenty injections of an arsenical and a similar amount of heavy metal. According to the Clinical Cooperative Group, only 4 per cent of patients who have received this minimum undergo infectious relapse. A clinic patient with early syphilis who discontinues treatment before receiving this amount of treatment is considered potentially infectious and receives a follow-up visit in the home. Every possible effort is made to restore such a patient to treatment. If this persuasive method fails, the legal authority of the health department is put into operation. This implies isolation and quarantine as for any other communicable disease. Legally, an individual cannot be forced to submit to treatment, but can be quarantined in any place designated by the health officer for any period of time he specifies, and most patients when faced with this choice prefer to submit to treatment. It should be emphasized that this legal authority is used only as a last resort, and after all persuasive methods have failed. Education, and not police authority insure the success of any health program, but occasionally it is necessary to invoke the latter for irresponsible individuals in order to protect the community.

In an effort to uncover other early cases, epidemiologic investigation has been given an important place in the program. This procedure has for its objective the discovery of the origin of all newly acquired infections, and also the channels of possible spread from each new case. This procedure is not as difficult as it may seem, and can be applied in syphilis more effectively than in any other communicable disease except gonorrhea. Unlike other diseases which are spread by ordinary every day contacts and enter the body by the respiratory or gastrointestinal tract, acquired syphilis is mainly spread by a highly specialized type of contact, sexual intercourse. By examining those individuals with whom the patient has had sexual relations during the period of incubation, the source of the patient's infection can be determined. If this type of investigation were pursued in every case of early syphilis and the source of infection brought under treatment, the infection rate would begin to decline. If no effort is made

to get at the root of the problem of the spread of syphilis in this fashion, there can be little hope of obtaining an early reduction in new infections.

The method of epidemiologic investigation described above is of much greater value and less expense than the method of routine serologic surveys of large groups of people. Group surveys are costly and much late syphilis of secondary public health importance is revealed. The method of group surveys has led to confusion between the issues of positive serologic reaction and infectious syphilis. It is a well known fact that infectious syphilis may exist without positive serologic tests and *vice versa*. In the Memphis-Shelby County Venereal Disease Control Program the issue of infectious syphilis takes precedence, and epidemiologic investigation is believed to be the most direct and economical way of discovering such cases.

Adequate treatment facilities are essential in any program for the control of syphilis. Syphilis is a disease which has a special affinity for younger and poorer groups of the population. The long treatment necessary is a financial drain even upon an individual with a moderate income. Individuals who can and do pay physicians for illnesses which involve 2 or 3 visits by the physician find themselves unable to meet the drain of paying weekly for 60 treatments or more. Public clinics for syphilis therefore are as essential in the community as public sanitoria for tuberculosis. In these two diseases the cost of medical care is unusually high, and since these diseases are problems of public health importance, the community must provide for those unable to meet the cost themselves, otherwise the cost to the community of neglect will be immeasurably higher in the long run.

In order to make treatment readily available in our program, clinics have been established in Memphis in important population centers so that the distance which patients must travel to the clinics is reduced to a minimum. Night clinics are held to serve those employed during the day. In the county, a mobile clinic travels every highway and byway, bringing treatment facilities within 3 or 4 miles of every resident of the county. In the only community in the county with a population of over 500, a permanent health center has been established, with venereal disease treatment included in the generalized health program. Wherever there is evidence that a patient who presents himself to one of our clinics is financially able to pay a private physician for treatment, that patient is referred to a physician of his choice. There is no desire to encroach upon that phase of syphilis treatment which is undeniably in the domain of private practice.

In the conception of the program it was realized that the private physician is a key individual in many respects, and that to achieve success in any community-wide program for syphilis control there must be given due consideration to the problem of the syphilis case in private practice. The important role played by the private physician in syphilis control is exemplified by the fact that a one-day survey conducted in Memphis in 1936 revealed that private physicians had under care over twice as many new cases of syphilis as did the public clinics in the city during that year. A syphilis control program which fails to take cognizance of the private patient group of syphilis cases therefore ignores an important section of the problem.

Moreover, it has been the experience of administrators of health programs that where cooperation has been requested of the medical profession without providing tangible evidence that some end is served by that cooperation, or where there has been a failure to meet the profession half way, an attitude of indifference is encountered. On the other hand, where it has been demonstrated that some useful purpose was being served as a result of the cooperating effort on the part of the physician, and where some tangible service has been rendered in return to aid the physician, cooperation of a high order never failed to be forthcoming. With this in mind, in the Memphis-Shelby County Venereal Disease Control Program an effort is being made to place certain useful services at the disposal of the physician on the one hand, while requesting that certain obligations be fulfilled by the physician on the other hand. These obligations are not of the nature of an imposition upon the goodwill of the physician, but are completely in accord with medical ethics and statutes which have existed for many years. For example, the reporting by physicians of cases of syphilis under their treatment is considered a fundamental obligation dictated not only by legal requirement but also by medical ethics. Legally, the reporting of cases of syphilis falls into the same category as the reporting of typhoid or smallpox cases. Reporting, to be of value, should be by name rather than by number, in order to

prevent duplicate reporting if the patient changes physicians, and the report card should be placed in a sealed envelope. It is only by means of such reporting by physicians that it will ever be possible to acquire accurate information as to whether the infection rate in a community is on the increase or decrease. Such reports of syphilis cases by name are held confidential by the health department and are not divulged under any circumstances. The physician can therefore be assured that he will be able to maintain his confidential relationship with his patient even though the name of that patient is reported to the health department.

Once the name of the patient is reported, the health department proceeds no further into the matter unless a subsequent report is made by the physician that the patient has discontinued treatment while still infectious. So long as the patient with early syphilis remains under treatment, his relationship to his physician is a private one and remains inviolable if sufficient treatment is taken to control infectiousness. Should the patient discontinue treatment before infectiousness has been controlled, however, his status no longer remains a private matter between him and his physician, since he immediately becomes a potential menace to the community through infectious relapse. The responsibility of the physician here becomes similar to his responsibility in the case of any other infectious person who comes to his attention, namely, to notify the health department of the situation. Such notification is required under the state regulations for the control of communicable disease in Tennessee.

On the physician's report card used for reporting syphilis in Tennessee is an attached card for reporting delinquent cases of early syphilis who have received less than the "20-20" minimum. In the Memphis-Shelby County Venereal Disease Control Program, following the receipt of a delinquent card, a home visit is made to the patient by a public health nurse or other medically trained individual. During this visit the visitor acts as an emissary from the physician's office, not in an official capacity, but endeavoring to serve purely as an intermediary between the physician and the patient in an effort to get the patient to return to the physician for the continuation of treatment. The cause for the lapse in treatment is determined and is conveyed to the physician for decision as to the disposition of the case.

In addition to the reporting of new cases and of delinquent cases, a final request made of the physician is that he endeavor to determine the source of the patient's infection and either take steps himself to bring this infectious individual under treatment or provide the health department with information which will enable it to identify and bring this individual under treatment. As previously stated the epidemiologic investigation of all recently acquired cases of syphilis is one of the main objectives of the Memphis-Shelby County Venereal Disease Control Program, and a special card is available for the reporting of such contacts by private physicians.

In order to assure the maintenance of a confidential relationship between physician and patient when the patient's contacts are reported to the health department, assurance is given that the patient's name will not be mentioned when the contact is approached. The contact is simply told that he or she has been named as a contact of an infectious case of syphilis and that to ascertain whether infection has been transmitted an examination is necessary. The contact is referred to a private physician of choice or to a public clinic for this examination.

So far, in considering the role of the physician in the syphilis program, attention has been focussed mainly upon the ways and means whereby physicians can cooperate in the program. In return for this cooperation the physician has a right to expect certain services to aid him in the diagnosis and treatment of his cases. In the Memphis-Shelby County Venereal Disease Control Program such assistance is available in various forms. Serologic tests are provided free to physicians through the city-state laboratory in Memphis. Tests on spinal fluid are also available. Drugs are provided free to physicians for the treatment of all cases of syphilis reported to the health department. Diagnostic darkfield examinations of primary lesions are made available at no cost to the physician. Consultations on the diagnosis of difficult cases are available under the supervision of the clinical staff of the city and county clinics. The services rendered in providing follow-up of delinquent early cases in private practice have already been discussed. Through the cooperation of the Malaria Research Project of the University of Tennessee and the Tennessee Department of Public Health, malaria strains are available at all times for the treatment of neurosyphilis in private practice.

Literature for distribution to patients is available free to physicians. It is believed that these services are not without value to the private physician.

In conclusion, it should be stated that the Memphis-Shelby County Venereal Disease Control Program is not an independent venture in venereal disease control. Numerous agencies have participated financially and administratively in setting up the framework of the program and in determining policies and procedures. To mention only a few, the United States Public Health Service, the Tennessee Department of Public Health, the city and county governments, and the University of Tennessee Medical School have all participated in providing funds, personnel, and advice. The Memphis-Shelby County Medical Society has participated by selecting an advisory committee to aid in working out the details of the program, and the approval of this committee has been secured on all phases of the program. This spirit of cooperation with the profession is highly esteemed, and as stated above, is considered essential for the successful execution of the program. With the resources and cooperation of the above agencies so generously available to the program, it is reasonable to believe that the Memphis-Shelby County Venereal Disease Control Program will serve as a demonstration of successful community control of syphilis by the utilization of all community resources in a concerted attack upon the problem.

AN EFFICIENT CLOSING SPATULA*

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The metal framework of the instrument herewith respectfully submitted has approximately the shape of a two-prong fork. It is made up of two parts which come together and form a single handle. Each part consists of a blade, shank and handle. A socket-hinge joint at a point where the shank and handle parts meet, together with a hinged clip on the handles, keep the frame of the instrument assembled while in use. One blade has a hinged clamp, which makes it possible securely to attach a piece of rubber dam to

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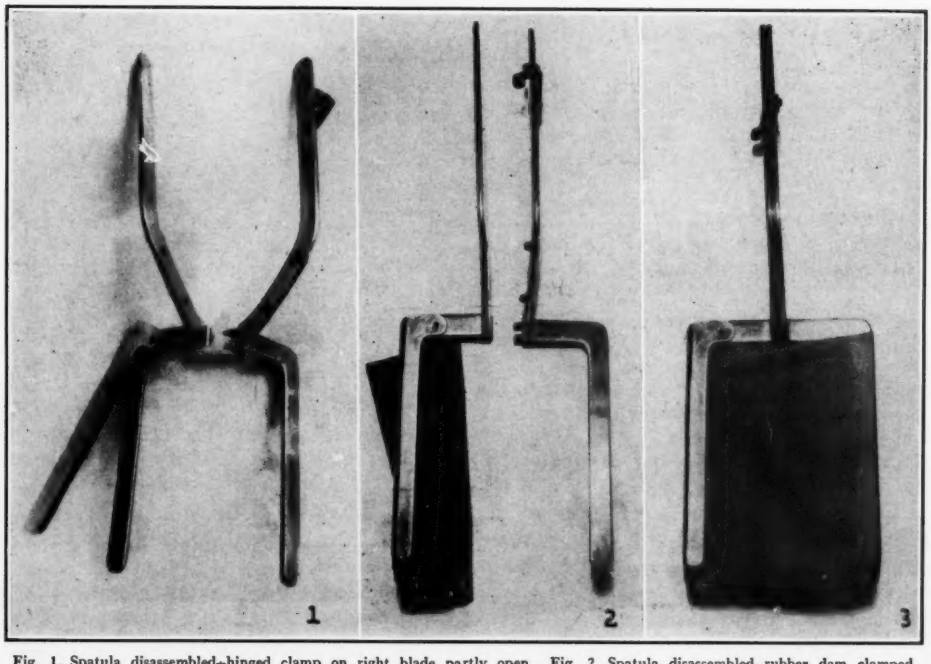

Fig. 1. Spatula disassembled--hinged clamp on right blade partly open. Fig. 2. Spatula disassembled--rubber dam clamped to right blade. Fig. 3. Spatula assembled.

it. Before attaching the rubber dam, the dam is folded and the free ends brought together over the blade and clamped to it. The rubber dam thus clamped acts as a tube or cylinder. The blade of the other part of the instrument is then placed in this rubber cylinder and the instrument is assembled, leaving the rubber dam stretched over the blades of the instrument and thus forming a spatula. The spatula can be inserted into the peritoneal opening either before or after it has been assembled. It is generally easier to insert it after it has been assembled. It is manipulated by the handle which remains on the outside of the wound. The peritoneum can be sutured over the instrument to a point where an opening of about ½ inch remains. When the closure has reached this point the instrument is taken apart and removed.

To remove the instrument from the almost closed peritoneal cavity one need only release the clip which holds the handles together. The instrument then comes apart. The half which has the free blade is removed first. The size of the spatula formed by the rubber dam stretched over the blades of the instrument is about 3½x5 inches.

The ordinary rubber dam which is made up for drains is used. It is available in all operating rooms.

SULFAMETHYLTHIAZOL*

A REPORT OF ITS CLINICAL USE IN STAPHYLOCOCCUS SEPTICEMIA WITH APPARENT SUCCESS. REPORT OF ANIMAL EXPERIMENTS

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LLOYD JONES, PH.D.
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Three years ago Dr. Perrin Long[9] reported before this Association the first use of sulfanilamide products in protecting against the streptococcus. It is quite fitting, then, that we should report here for the first time the successful use of a sulfanilamide derivative for combating *Staphylococcus aureus* infections and septicemia.

From time to time there has been reported in the literature successful treatment of staphylococcic septicemia by bacteriophage, blood transfusions from immunized patients, and various antitoxins. Since the use of sulfanilamide and sulfapyridine, isolated cases of staphylococcus septicemia have been reported as having recovered after treatment with these. Morris[1] reports recovery in *Staphylococcus albus* and more recently Thornhill *et al.*[2] report two cases of *Staphylococcus aureus* septicemia with apparent recovery. It should be noted, however, that both of these cases were still draining from the wounds at the time of the report. Samuel L. Goldberg[3] reports a *Staphylococcus aureus* bacteremia which recovered with the use of sulfapyridine. Fenton[4] reports a case of *Staphylococcus aureus* involving the pleura and having a positive culture in the urine, probably from cortical abscesses of the kidney, with recovery following the use of "prontosil." C. J. McCarthy[5] reports recovery with "prontosil" where the blood and urine cultures were positive for *Staphylococcus aureus*. James Maxwell[6] reports a case of pneumonia complicated by *Staphylococcus aureus*, which recovered after the use of "prontosil." The last three mentioned reports appeared in the British *Lancet*. Perrin Long[7] states briefly that three of five patients with staphylococcus bacteremia recovered after the use of sulfapyridine. He adds, however, that the drug is only mildly effective in this type of infection. It is a well recognized fact among clinicians and laboratory experimenters that the *Staphylococcus aureus* in its virulent strains is one of the most resistant to chemotherapy. We wish to present the first clinical case in which a new sulfonamide preparation, namely, sulfamethylthiazol, has been used clinically with apparent recovery of the patient who was afflicted with *Staphylococcus aureus* infection.

REPORT OF CASE

Case 1.—Mr. A. S., aged 57 years (patient of Dr. Harry Wiese) was admitted to St. John's Hospital Sept. 11, 1939, complaining of dull, aching pain in the left lower quadrant, urgency and frequency of urination.

Ten years previously the patient had been seen by us for left renal colic, at which time cystoscopic examination showed both kidneys normal, but a median prostatic bar was found, causing 1 to 2 ounces of residual urine. A diagnosis of regurgitation renal colic[8] was made, and treatment has consisted of urethral dilatation at six-month intervals. During this period there

*Read in Section on Urology, Southern Medical Association, Thirty-Third Annual Meeting, Memphis, Tennessee, November 21-24, 1939.

*From the Bacteriological and Urological Departments of the St. Louis University School of Medicine.

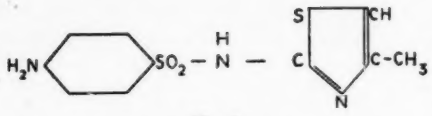

Fig. 1
Structural formula of the drug sulfamethylthiazol.

has been no recurrence of colic nor has there been urinary infection.

For two months previous to his admission the patient had a lesion on his chin which he described as crusting and discharging small amounts of pus. This had persisted to the time of his admission into the hospital.

Physical examination disclosed a temperature of 102°, pulse 80, and blood pressure 100/60. No abnormalities were found except for a mass in the left hypochondrium which was moderately tender; no definite outline could be determined.

Laboratory Examination.—The urine contained blood and a few pus cells. Leukocytes were 9,700, erythrocytes 4,200,000, the hemoglobin was 78 per cent, and nonprotein nitrogen 30 mg. The sedimentation rate was 77 mm. in 60 minutes.

At cystoscopy September 11, both ureters were catheterized. Twenty c. c. of retained urine was obtained from the left kidney. Phenolsulphonphthalein appeared on the right in three minutes; on the left in five minutes. Pyelograms showed a rotated left kidney with narrowed calyces and the pelvis suggesting tumor or multiple cortical abscesses. Urine from both kidneys showed staphylococcus and *B. coli* on culture.

The patient was given calcium mandelate, 12 grams daily, for seven days, without clinical improvement except that urine culture on September 21 showed pure *Staphylococcus aureus*. Sulfanilamide, 40 grains daily, given for the next five days, had no effect on the progress of the disease; the patient remained toxic and the leukocyte count steadily mounted to 15,000, the sedimentation rate to 110 mm. in sixty minutes, and the hemoglobin and erythrocytes were unchanged.

On the twenty-first day of the disease, a flat x-ray showed complete absence of the psoas shadow on the left and a preoperative diagnosis of perinephritic abscess was made. The operation revealed marked diffuse infection of the perirenal tissue, the kidney was large and firmly fixed to the peritoneum and surrounding tissues. Drains were placed anterior and posterior to the kidney and the wound was closed. Culture of the wound showed *Staphylococcus aureus*.

The wound broke open on the second postoperative day and drained thick, yellow pus. The urine continued to contain pus and staphylococci. On the fourth postoperative day, sulfapyridine, 45 grains daily, was started and given for seven days. During this period the patient was given 500 c. c. of citrated blood. The leukocytes were 12,750, erythrocytes 4,040,000, hemoglobin was 78 per cent, and the sedimentation rate 88 mm. in sixty minutes.

On the fourteenth postoperative day the patient continued toxic and there was profuse drainage from the wound, the leukocyte count mounted to 21,600, the temperature remained elevated, the urine culture was positive, the sedimentation rate was 93 mm. in sixty minutes, and nonprotein nitrogen 36.3 mgs.

Any further operative procedure was felt inadvisable because of the hazards of operation and also since the disease was probably bilateral.

At this time we obtained sulfamethylthiazol, a new sulfonamide compound* determined by experiment *in*

*Prepared by the Winthrop Chemical Company.

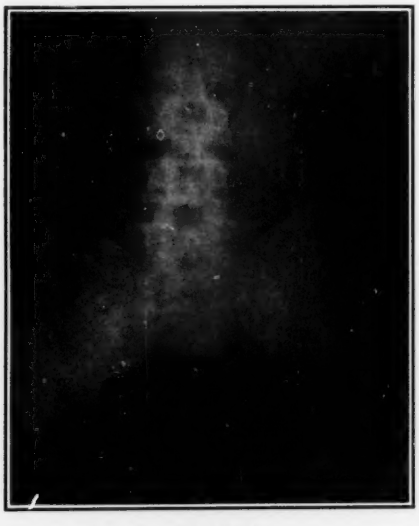

Fig. 2
Pyelo-ureterogram showing compression of left calyces and pelvis, suggesting cortical renal abscesses.

Fig. 3
Complete absence of left psoas muscle and haziness of the entire left renal area, suggesting perinephritic abscess.

vitro and in animals to be particularly efficacious against Staphylococcus. The drug was given for sixteen days with dosage ranging from 14 to 6 grams daily. Blood concentration of the drug ranged from 2 to 5 mg.

Daily leukocyte counts ranged from 21,600 on the second day of administration of the drug to 17,100 on the third, 15,900 on the fourth, 11,050 on the sixth, 10,900 on the eighth, 9,450 on the eleventh, and 7,800 on the twelfth day. Repeated urine cultures remained positive until November 6, the fifty-sixth day of disease, twenty days after starting administration of sulfamethylthiazol, at which time the urine became negative to culture and has remained so to this date. The temperature returned to normal on the fifty-seventh day and has remained so. Hemoglobin and erythrocytes varied only slightly throughout treatment. At no time was a positive blood culture obtained. During the course of sickness the patient developed a severe glossitis and dysphagia which responded promptly to vitamin B administration.

No toxic symptoms or signs ascribable to this drug were seen except for a slight nausea and an elevation of the nonprotein nitrogen from 36.3 to 38.7 mg. per cent.

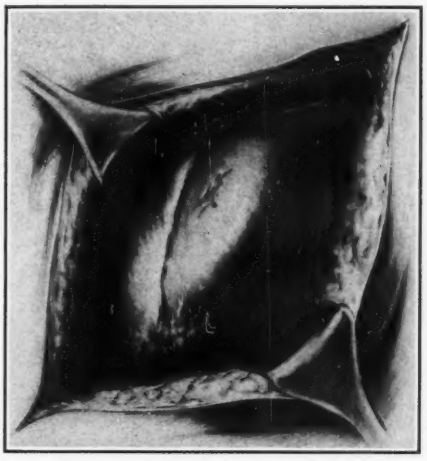

Fig. 4
Drawing showing large kidney with torn capsule and adherent peritoneum with fatty nests of *Staphylococcus aureus* abscesses in perirenal tissue.

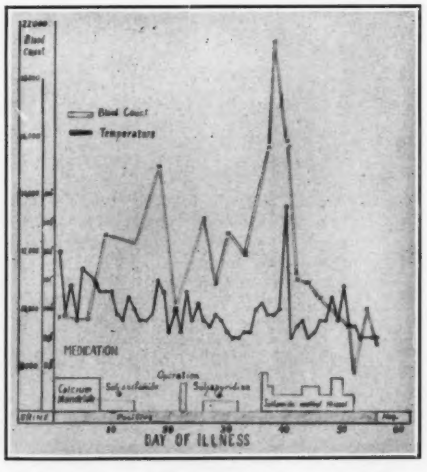

Fig. 5, Case 1
Chart indicating clinical progress in first case treated with sulfamethylthiazol. Note dramatic drop in white count following drug administration.

THE PROTECTION OF MICE AGAINST *STAPHYLOCOCCUS AUREUS* (MR. S. STRAIN) BY SULFAMETHYLTHIAZOL AND ITS SODIUM SALT

Following the intravenous injection of 700,000,000 staphylococci into each of a series of white mice, we have observed:

(1) Death in all of six nonmedicated animals with an average survival time of four days.

(2) Survival for fifteen days of five out of five animals, which were medicated for fourteen days with sulfamethylthiazol.

(3) Survival of one out of five animals injected with the sodium salt.

In another experiment the injection of 660,000,000 organisms killed all of twelve nonmedicated mice with an average survival time of three days, whereas in the sulfamethylthiazol medicated group seven out of ten animals have survived ten days and in this experiment ten out of eleven animals were saved by a dosage of the sodium salt twice as large as that previously given.

Against a dose of 400,000,000 organisms in another experiment which killed all of six nonmedicated mice, two out of four and three out of four were saved by the drug and by its sodium salt.

In still another experiment using a dose of 200,000,000 organisms which killed all of four nonmedicated animals, two out of four and three out of five animals were saved by the compound and its sodium salt.

These results may be summarized by the statement that about 70 per cent of the animals injected with a killing dose of the organisms were saved by one or the other form of the drug for observation periods which are thus far ten and fifteen days.

These experiments are being continued and expanded.

APPENDAGE

It is probably of some value to report on other cases treated by the drug.

Case 2, Mr. R. K., and *Case 3,* Mr. E. K., classed as mild cases of pyelonephritis due to *Staphylococcus aureus* infection, showed negative cultures in the urine one week after the drug was given. The blood concentrations ranged between 3 and 4 mg. per cent. These cases were ambulatory and showed no toxic symptoms on the usual doses of the drug.

Case 4.—V. M., aged 20 years (Dr. Arthur Neilson's case, seen by Dr. John Flynn, Resident in Obstetrics and Gynecology), entered the St. Louis City Hospital on October 26, 1939, and was admitted to the Obstetrical Service. She was delivered of a seven-pound male child, an uncomplicated delivery, by forceps and episiotomy. Her stay on the obstetrical division was uncomplicated until November 8, 1939, when it was noticed in routine rounds that her right breast was inflamed, tense and indurated. At this time a nodule about the size of a hen's egg was palpable in the right upper quadrant of the breast. She was watched for some time on the Obstetrical Division. Her child was not allowed to nurse, and on November 12, 1939, she was transferred to the Gynecological Service for treatment and observation. From November 8 until November 12, she had been running spiking temperatures of from 99 to 103°. Routine blood cultures taken were normal, a typical blood count taken on November 10 showed red cells 3,650,000, hemoglobin 70 per cent, white cells 22,950. The differential showed a shift to the left. Blood culture taken on November 18 showed *Staphylococcus albus,* or possibly *aureus.* On November 13, she was started on forty grains a day of sulfanilamide by mouth.

On November 17, 1939, the patient looked very ill and cyanotic. Her blood picture showed: red cells 4,010,000, hemoglobin 75 per cent and white blood cells 19,700. However, this improvement of the blood picture was probably due to two transfusions of 500 c. c. of whole blood, which were administered on November 10 and 11. In addition to the fact that she seemed to be failing rapidly, her temperatures were of the definite saw-tooth septic variety, varying between 102 and 104°. On November 18 at noon the patient began taking sodium sulfamethylthiazol, the soluble form of sulfamethylthiazol. She was given 50 c. c. of a solution containing 500 mg. of the drug. Eight hours later 250 mg. more were given intravenously. Eight hours later 250 mg. more were given so that in the first twenty-four hours she obtained one gram of the drug intravenously. This medication was continued every eight hours until 4:00 p. m. November 20, when she was shifted to two grams of sulfamethylthiazol in tablet form by mouth. She was kept on this until the morning of November 22. Her temperature rapidly fell almost immediately after she began this drug, and on November 20 it was normal for the first time. However, in the afternoon of November 20 it again arose to 100° to fall again in the morning of November 21 to a subnormal temperature of 98°, where it has remained ever since. The patient's color became good, she said that she felt much better, was able to smile and laugh, and was now eating full meals.

The breast abscess was opened and drained. It was in bad shape before sulfamethylthiazol was given. It was treated by hot wet packing and on November 16 it was noticed that the patient had a generalized dermatitis of the entire right breast, area about the breast, and right side and back as far down as the right buttock. This dermatitis cleared up simultaneously with the administration of the drug. Blood cultures have been negative since November 19. The white blood cell count on November 20 was 15,200; on November 21 it was 8,550.

In addition to the above named drug, the patient on November 20 also received 300 c. c. of whole citrated blood as a transfusion. The breast abscess now seems to be well granulated, lochia have again begun, and are of a normal variety. The patient seems to be well on her way to convalescence and recovery.

The blood on November 19 showed free drug 3.3 mg. per cent; and combined 9.6.

Case 5.—Baby B. (patient of Dr. G. H. Becker) a male infant, was born October 17, 1939, weighing 7 pounds 8 ounces. The delivery was spontaneous and apparently uneventful. On the seventh day the infant developed a diarrhea with an associated slight discharge from the umbilicus.

The baby was first seen on October 27, 1939. Physical examination revealed an apparently normal male infant with a moist umbilicus; the temperature by rectum was 100 degrees; there were no other positive findings. On October 29, 1939, the infant developed a swollen left knee joint. The discharge from the umbilicus showed a gram-positive coccus in clusters. Local alcohol packs to the umbilicus was started. Neoprontosil in one grain doses every five hours was started. A tentative diagnosis of staphylococcus septicemia with septic synovitis was made. The infant was given daily injections of blood intramuscularly, the average dose between 10 and 20 c. c.

On November 1, 1939, the infant was hospitalized at St. Mary's Hospital. A transfusion of 20 c. c. of whole blood was given; neoprontosil was continued. A blood culture was taken upon entry into the hospital and revealed on the next day a gram-positive coccus in clus-

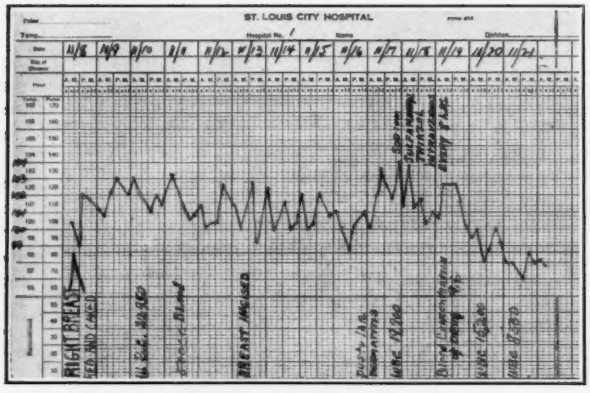

Fig. 6, Case 4
Rapid drop in temperature and white blood count immediately following intravenous injection of drug.

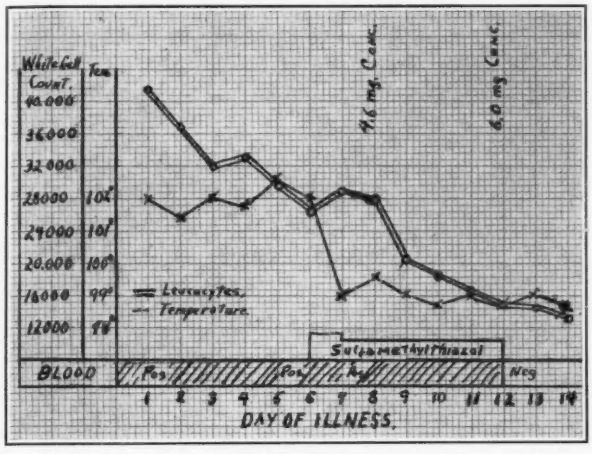

Fig. 7, Case 5
Rapid fall in the temperature and white blood count after administration of sulfamethylthiazol.

ters. On November 4, a blood transfusion of 50 c. c. was given. Neoprontosil was changed to sulfapyridine, grains one every five hours. The left knee joint at this time was still greatly swollen, but seemed to be regaining slight active motion. On the evening of November 4, the right shoulder joint become swollen, hot and tender, indicating a spread of the septic process.

The infant was discharged from the hospital November 6 in about the same condition that it entered. (This was done primarily because the mother was dissatisfied with hospital treatment and thought she could give the baby better care at home.) Sulfapyridine was continued at home for five days.

On the morning of November 16, there appeared a swelling of the right hip joint. The left knee joint was still greatly swollen with signs of increased temperature, tenderness and little, if any, motion. There was no motion in the swollen right shoulder joint. On the evening of November 16, a blood culture was taken and sulfamethylthiazol was started. An initial dose of two grains was given, followed by one grain every four hours. The next morning the mother reported that the child had perspired profusely throughout the night. The temperature was 99 degrees by rectum. The child apparently suffered no ill effects. The dose of one grain every four hours was continued until November 20, when for a period of 48 hours two grains every four hours were administered. The drug was continued from November 16 through November 27.

On November 27 the infant was clinically improved. Hot packs were administered to the left knee joint. The swelling of the right shoulder joint had decreased considerably. Active motion had begun in the right hip joint. On December 3, the child was doing very well. Both the left knee joint and the right hip joint had almost normal motion. There was, however, a moderate degree of swelling of the left knee joint area. This swelling was very much less than one week previously. There seemed to be less motion in the right shoulder joint. Although the joint was slightly swollen, no other signs of inflammation were present.

On December 6, both the left knee joint and the right hip joint were markedly improved. Little, if any, motion was present in the right shoulder joint. A skin rash (folliculitis) was present on the chest, back and both upper extremities. Ultraviolet light and a calamine and zinc oxide lotion helped clear this up in two days. With the appearance of the rash potassium iodide drops 2 daily were discontinued. Administration of iodide had been continuous since November 29.

On December 7, x-ray examination of the right shoulder joint revealed bone destruction of the head of the right humerus. The patient is now under the care of an orthopedist.

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DISCUSSION (*Abstract*)

Dr. Carroll (closing).—These five cases reported today are the first human beings with infection to be given the drug. However, it must be noted that very thorough animal and test tube experimental work had been carried out in the research department of the Winthrop Chemical Company, and the workers had administered four grams daily of the drug to themselves without deleterious effects.

We in turn carried out carefully controlled experimental work on mice, rats and rabbits, using virulent staphylococci.

When we see all of a group of mice which were given the organism die, and another group of mice given the same number of organisms all live when given the drug, and five successive patients, three of whom were dying with septicemia, recover promptly when administered the drug, it is rather difficult to subdue one's enthusiasm. We shall further investigate the drug and note the experience of others with keen interest.

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C. P. LORANZ, Secretary, Treasurer and General Manager

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EDITORIAL DEPARTMENT

SOUTHERN MEDICAL ASSOCIATION
Thirty-Fourth Annual Meeting
Louisville, Kentucky, November 12-15, 1940

DR. QUITMAN UNDERWOOD NEWELL

PRESIDENT-ELECT OF THE SOUTHERN MEDICAL ASSOCIATION

Had the Association searched far and wide, by Gallup poll among medical profession and laity, for a popular man and most genial physician, Quitman Newell, of St. Louis, would have received the nomination.

The President-Elect, chosen at the Memphis meeting of the Association to be its leader for 1940-1941, is Southern to the core. Few of his informal talks fail to mention the fact that he sprang from the deep South which he still loves, and that pot liquor and brown corn pones are the real nectar and ambrosia of the gods, tomes on mythology to the contrary notwithstanding.

Born on a farm in Mobile County, Alabama, in June, 1886, near the town of Whistler, Dr. Newell was recently described in the *Mobile Register*, in a write-up of his election to the Southern Medical Association presidency, as the "country boy who came up the hard way." Born of parents of moderate means, the seventh of nine children, he had no silver spoon in his mouth, but forged his way upward by industry and native gifts.

Grammar school and two years of high school work in Whistler, Alabama, were followed by two years at Barton Academy, Mobile, from which he was graduated. Three years were then spent with the Mobile and Ohio Railroad as bookkeeper, stenographer and accountant, to obtain funds to enable him to study medicine. His medical course was taken at the Mobile Medical College, then the Medical Department of the University of Alabama, where an M.D. degree was obtained with honors in 1911. He went to St. Louis without an acquaintance in that large city; his personal application for an internship at Barnes Hospital of Washington University School of Medicine met with success; and up and up the ladder he climbed. Later he was appointed resident in the Department of Obstetrics and Gynecology under Dr. H. S. Crossen and the late Dr. Henry Schwarz.

He immediately decided to specialize in obstetrics and gynecology, and remained as resident in this Department until 1914, when he was again promoted, and in succession has been Assistant, Instructor, Assistant Professor, Associate Professor and Professor of Clinical Obstetrics and Gynecology at the Washington University School of Medicine. The nickname "Quit" given to him in his childhood had no significance in his life, for his associates are agreed that he never learned the meaning of the word.

During the World War he served overseas as Captain in Evacuation Hospital No. 18, and saw much active service in France and Germany. He returned to his work in St. Louis, and was married in 1920 to Miss Katie Lou Kelley, of Whistler, Alabama. To them were born two children, Quitman, Jr., now 18 years of age, a freshman at the University of Alabama, and Doris, now 15 years of age, a junior at Mary Institute, a part of Washington University. Mrs. Newell died in 1924.

In addition to holding a professorship at Washington University School of Medicine, Dr. Newell enjoys an extensive private practice. He is outstanding in his specialty of obstetrics and gynecology in his city, state and the nation. He is on the staff of Barnes Hospital, St. Louis Children's, St. Louis Maternity, St. Luke's, Missouri Baptist and Missouri Pacific Hospitals.

Among his many society memberships are the Southern Surgical Association, American College of Surgeons, American Association of Obstetricians, Gynecologists and Abdominal Surgeons and the Central Association of Obstetricians and Gynecologists. He is a diplomate of the American Board of Obstetrics and Gynecology, and he served as General Chairman for the annual meeting of the Southern Medical Association in 1935 in St. Louis and as its Vice-President in 1936.

Among his various outstanding contributions to medical literature[1] are his investigations on the ovulation period of human beings and the fertility period and nature of the ovum.

For recreation he enjoys on week ends his beautiful farm near St. Louis, equipped with a large modern house, swimming pool and livestock of various kinds. He farms, fishes and hunts and maintains a 250-acre farm near Whistler, Alabama, where he specializes in the production of fine pecans. He has been both father and mother to his two young children, since their mother died practically in their infancy.

An alert, powerful looking man with a splendid carriage, ready wit, abundant general and scientific information and a broad tact capable of sensing any situation, Dr. Newell is always kindly and generous-minded even in the heat of debate. Idolized by rich and poor among his patients, a stimulating leader in his profession, he has been called by one of his early teachers "a woman's physician but a man's man."

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RELAPSES AFTER SULPHONAMIDE TREATMENT OF GONORRHEA

In a recent number of the *British Medical Journal,* Cokkinis and McElligott,[1] of St. Mary's Hospital Venereal Disease Department, report late relapses in a series of nearly 1,500 cases of gonorrhea treated with sulfanilamide, sulfapyridine, and a disulfanilamide compound. Late relapses, they say, are frequent enough in their practice to cause real anxiety. The usual tendency is to close one's eyes to these unpleasant developments and dismiss the cases as reinfections, no matter how strenuous the patient's denials of fresh exposure. They believe that the relapse presents a picture which is different from that of a reinfection and which can be diagnosed without relying entirely on the patient's veracity.

Relapses cleared up sometimes with irrigations and vaccines, sometimes responded readily to further chemotherapy, sometimes became a problem which resisted therapy or after a second apparent cure again recurred. They report an incidence of about 20 per cent of relapses, which they say was definitely lowered by delaying chemical treatment until the second week of infection. Early relapses were more frequent after sulfanilamide; late relapses after sulfapyridine. They emphasize the importance of following the cases for six months after they have become symptomatically and bacteriologically negative.

In the early days of the arsenicals, it was thought that one injection of salvarsan would cure syphilis. Time has shown the importance of continued treatment, although the arsenicals remain firmly established as curative. It is to be expected that time will effect some revision of conclusions as to the use of the sulfonamides.

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B_6 PATHOLOGY

This century has excelled in developing methods of preservation of foods. Food processors and packagers who can hold their product for a favorable market in the present economy make good profits; the farmer who must sell his tomatoes, wheat, chickens, pigs, spinach, oranges, and peaches as they become ready for marketing usually lives in the red. This is an economic tendency which is likely to gain momentum, and certainly shows no signs of abatement.

The outstanding effect of industry on the diet of the Twentieth Century has been the increasing tendency to the use of preserved foods, particularly notable in the staff of life, the cereal grains. Removal of the outer coat of corn, wheat, rice, and other grain makes the remainder easier to store, because, as MacCollum noted many years ago, in this condition bugs cannot live on it. Human beings appear to be living in large part on it by making up the deficiency more or less adequately from other sources. This century has seen a steady rise in consumption of highly milled grain and other vegetable products, white flour, white rice, white meal, white sugar, and also oxidized vegetable fats as represented in many of the cooking oils.

Incidence of disease has changed in this century, the most notable differences being the decrease in infectious diseases, due to improved sanitation, rise in the death rate from cardiovascular disease and cancer, increase in the incidence of nervous diseases as shown by the population of the insane asylums, increase in individual height, and decrease in hair on the top of the head.

Changes, then, in disease incidence in the Twentieth Century have occurred as the use of B vitamins by the population has decreased. Recent purification and crystallization of a number of the vitamins of the outer coat of grain, with demonstration of clinical therapeutic value of thiamin, riboflavin, nicotinic acid and B_6, following identification of deficiency syndromes in laboratory animals, has further stimulated study of subclinical deficiency states. One should not attempt to evaluate these without some knowledge of the pathology of the pure laboratory deficiencies, which, however, vary greatly in different species of organisms.

All laboratory animals, even many bacteria, require some member of the B group of foods for their growth and development. As new vitamins are crystallized and synthesized, it is usually necessary to repeat nutritional studies, reexamining work which was done with earlier B concentrates which contained various unknown food elements. The last vitamin to be synthesized, B_6, is identified as a pyridine.[1] Gyorgy, in 1935, described rat acrodynia, now considered a manifestation of B_6 deficiency. Antopol

1. Harris, S. A.; and Folkers, K.: Synthesis of Vitamin B_6. Jour. Amer. Chem. Soc., **61**:1245 (May) 1939.

and Unna,[2] of the Merck Institute of Therapeutic Research, have investigated the pathology of B_6 deficiency in the rat, using a diet devoid of all the B components, to which they added the three purified B vitamins, thiamin, riboflavin and nicotinic acid, the controls receiving also synthetic B_6. In two to three months skin symptoms were severe. There were swollen ears, paws and snouts, and ulcers under the tongue. Microscopic changes in the epithelium included hyperkeratosis, intercellular edema, and degeneration of hair follicles and sebaceous glands. These effects were promptly reversed with restoration of normal tissue after treatment with the synthetic vitamin. It is particularly interesting that a vitamin caused regeneration of hair cells, though this is demonstrated for only one species of animal.

Jukes,[3] at the University of California, has studied B_6 deficiency in young chickens. He notes failure of growth and nervous symptoms consisting of convulsive movements. Blood counts appeared to be normal. Spies, Bean and Ashe[4] have reported patients on what is usually called a pellagra diet who were unable to walk, but were restored to activity in a few hours after treatment with B_6.

The fact that deficiency of the B group of vitamins is not uncommon, particularly in the South, which is the poorest section of the country, according to Roosevelt "the nation's number 1 economic problem," and where pellagra has been extensively and very successfully treated with nicotinic acid, makes clinical study of any other of the B vitamins of much interest in this section. One should find in many middle-aged patients the effects of prolonged partial inadequacy of the B group. Any of the usual diseases of middle-aged Southerners may be late manifestations of B deficiency.

As each new accessory food factor is intensively investigated in chemical literature, of course, clinical investigation takes on new hope, much of which soon is gone with the wind.

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INSULIN SENSITIVITY

Widespread use of shocking doses of insulin in the treatment of schizophrenia confirmed the fact that the pancreatic hormone has a variable effect upon blood sugar, even in the same patient from day to day. During weeks of administration of a coma dose of insulin, insulin resistance may change markedly. Similarly in diabetes the correct insulin dosage must be established for each individual, cannot be predicted from the height of the blood sugar level, and often changes in the presence of infection and under other circumstances.

One of the mechanisms which influences insulin sensitivity would seem to be the adrenal cortex. Bloomfield,[1] of Stanford University, reports detailed studies of a patient with diabetes who later developed Addison's disease. As the adrenal disease progressed his insulin requirement dropped from forty units daily to four to six. A synthetic cortical hormone did not raise his blood sugar, but actually caused a slight fall. An adrenal cortical extract, "eschatin," however, did raise his blood sugar, as it does in animals from which the pancreas and adrenals have been removed.

As Addison's disease progressed the patient became exceedingly sensitive to insulin. With a blood sugar of 310 he went into insulin shock after three injections which totaled only 28 units. He became stabilized on a dosage of 10 units of insulin per day in two doses, but became hyperglycemic very quickly if this small dose was withdrawn, suggesting that the adrenal gland earlier in some way had stabilized his reaction to insulin.

During insulin shock treatment, shock is sometimes dangerously and unduly prolonged despite the administration of parenteral glucose. The patient cannot be aroused. Blood transfusion in these cases has been suggested as having a very beneficial effect. Blood, according to Wortis and Lambert,[2] contains substances other than oxygen which are essential for the metabolism of the brain.

These might be inorganic materials such as sodium, calcium and phosphates, or internal secretions, such as those of the adrenal.

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TWENTY-FIVE YEARS AGO

From Journals of 1915

Southern Medical Journal, January, 1915.—Address, Suite 905 Van Antwerp Bldg., Mobile, Ala. Entered as second-class matter, July 8, 1908, at the post office, Nashville, Tenn. Editor-in-Chief, Seale Harris, Mobile. Managing Editor, H. A. Moody, Mobile. Associate Editors, J. A. Witherspoon, W. D. Haggard, W. A. Bryan, W. M. Litterer, M. M. Cullom, Nashville, and Oscar Dowling, New Orleans. Business Manager, Mr. C. P. Loranz, Mobile. Section Chairmen: Medicine, Dr. William H. Deaderick, Hot Springs; Surgery, Dr. Isidore Cohn, New Orleans; Public Health, Dr. A. W. Freeman, Richmond; Ophthalmology, Rhinology, Otology and Laryngology, Dr. Joseph Green, Asheville; Southern States Association of Railway Surgeons, Dr. Thomas H. Hancock, Atlanta.[1]

Officers of American College of Surgeons.—The American College of Surgeons is one of the most remarkable organizations in existence. * * * It now has on its membership roll 2,700 of the leading surgeons of the United States. * * * Following are the officers for the ensuing year: President, Dr. J. M. T. Finney, Baltimore; First Vice-President, Dr. Rudolph Matas, New Orleans; General Secretary, Dr. Franklin H. Martin, Chicago; Treasurer, Dr. A. J. Ochner, Chicago. Among those selected for the Board of Governors are Dr. Joseph C. Bloodgood, Baltimore; Surgeon General Rupert Blue, Washington; W. P. Carr, Washington; Dr. Thomas S. Cullen, Baltimore; Dr. F. G. Dubose, Selma.[2]

Americans in War.—Dr. Earle Drennen, of Birmingham, has sailed for Paris to work with the National Red Cross Corps on the battlefields of Europe.[3]

Milk Troubles.—At Montgomery a family which claimed to have been made ill by milk from the Home Dairy caused the arrest of L. D. Zuber, the proprietor, in the Recorder's Court, from which he appealed. A nail was found in one of his bottles of milk.[4]

Laboratory in Miami.—The new laboratory of the Miami Board of Health was opened in November. A lady physician, Dr. I. C. Yeumans, will be in charge of the laboratory, whose equipment ranks among the best in the State. Dr. Yeumans is a graduate of Johns Hopkins.[5]

1. Sou. Med. Jour., **8**:67, 1915.
2. Editorial, Sou. Med. Jour., **8**:73, 1915.
3. State News, Alabama. Ibid., p. 79.
4. Ibid.
5. Ibid., p. 80.

Book Reviews

Chronic Arthritis. By Robert T. Monroe, A.B., M.D., Associate in Medicine, Harvard University. (Reprinted from Oxford Loose-Leaf Medicine.) Edited by Henry A. Christian, M.D. 84 pages. New York: Oxford University Press, 1939. Cloth $2.00.

A very clear presentation of the fundamental conceptions and considerations of the management of arthritis. The working classification is atrophic, hypertrophic and periarticular types. Therapy is viewed in a practical manner, without overemphasis on any particular method. The entire text is conservative and comprehensive in its teachings.

Cardiovascular Diseases: Their Diagnosis and Treatment. By David Scherf and Linn J. Boyd, M.D., F.A.C.P., Associate Professor of Clinical Medicine and Professor of Medicine, respectively, the New York Medical College, Flower and Fifth Avenue Hospitals. 458 pages. St. Louis: The C. V. Mosby Company, 1939. Cloth $6.25.

In this volume there will be found a discussion of the subject presented from a practical point of view. The sections on diagnosis and treatment of the various types of cardiac disease are particularly good. When the authors attempt to discuss the pathologic physiology of heart failure they become rather confused and the reader will do well to omit these sections. However, the book as a whole is most commendable.

Studies on the Changing Incidence of Peptic Ulcer of the Stomach and Duodenum. By Gunnar Alsted, M.D., Privat-docent at the University of Copenhagen, Assistant Physician and Member of the Staff, Bispebjerg Hospital, Copenhagen. 148 pages. New York: Oxford University Press, 1939. Cloth $4.00.

This small volume is a reprint, with some additions and alterations, of comparative investigations made by the author on the incidence of peptic ulcer and gastric hemorrhage among the population of Copenhagen as well as in a big municipal hospital. Emphasis is laid on the apparent striking change in the sex-incidence of ulcer in the past few decades. While it was formerly prevalent in women, peptic ulcer now occurs chiefly in men.

The results seem to indicate that the clinically observed increase in ulcer is not a real one, but is partly due to an improved diagnostic technic and partly to an increasing chronicity of peptic ulcer, with a growing number of readmissions. The incidence of fresh ulcers did not seem to be increasing in men, while its frequency in women was found to be decreasing; and this appears to be the true explanation of the reversed sex-incidence of peptic ulcer observed during recent years.

The book is interesting and worth reading, though the apparent lack of importance of this phase of ulcer and the results obtained appear hardly to justify the tremendous amount of work associated with the publication of a volume on this subject.

Textbook of Nervous Diseases. By Robert Bing, Professor of Neurology, University of Basel, Switzerland. Translated and Enlarged by Webb Haymaker, Assistant Clinical Professor of Neurology and Lecturer in Neuro-Anatomy, University of California. From the Fifth German Edition. 838 pages, illustrated. St. Louis: The C. V. Mosby Company, 1939. Cloth $10.00.

This is a translation of the fifth German edition of Bing's "Textbook of Nervous Diseases." The material has been rearranged, augmented and adapted to American and British usage and considerable anatomic and physiologic data have been added throughout the text.

In addition to the neurologic material, there is a discussion of the psychoneuroses. The subject matter is grouped into clinical syndromes and discussed under the headings of anatomy, pathologic physiology, general symptomatology, special symptomatology, differential diagnosis, course and prognosis, and treatment. The book presents the viewpoints of one man and differs from other neurologic texts in that there is presented with each neurologic entity a detailed and precise therapy. This includes numerous pharmacologic formulae.

It is an excellent introduction to the study of clinical neurology. The material is well presented in semi-lecture and semi-outline form. It is accurate, logically interpreted and written with clarity of style and composition. This work is of definite value to the student of medicine and to the general practitioner.

Practical Obstetrics. By P. Brooks Bland, M.D., Emeritus Professor of Obstetrics, Jefferson Medical College, Philadelphia, Pennsylvania, and Thaddeus L. Montgomery, M.D., Clinical Professor of Obstetrics, Jefferson Medical College, Philadelphia, Pennsylvania. Third Edition. 877 pages, illustrated. Philadelphia: F. A. Davis Company, publishers, 1939. Cloth $8.00.

In this excellent presentation two features are outstanding. First of these is the large number of splendid illustrations, both uncolored and colored, and second, is the unusual outline method of presenting the subject material, which renders the text very easy to read and to grasp.

In the classification of the toxemias of pregnancy the authors include the low reserve kidney as outlined by Stander, but do not include essential hypertension in the toxemic group.

The chapter on anesthesia is very fully written, describing the advantages and disadvantages of the various methods of anesthesia and analgesia.

In the part devoted to puerperal complications, sulfanilamide is discussed at length.

The chapter on operative obstetrics is particularly well illustrated. A step-by-step description of both the classical and low cervical cesarean section is presented.

The treatment of the new born has been considerably revised; also, the chapter on obstetrical jurisprudence, a subject often neglected, is very instructive.

An Introduction to Medical Mycology. By George M. Lewis, M.D., Associate and Assistant Attending Dermatologist, New York Post-Graduate Medical School and Hospital, Columbia University; Instructor in Medicine (Dermatology), Cornell University; and Mary E. Hopper, M.D., Assistant in Mycology, Skin and Cancer Unit, New York Post-Graduate Medical School and Hospital, Columbia University. 315 pages, illustrated. Chicago, Illinois: The Year Book Publishers, Inc., 1939. Cloth $5.50.

Lewis and Hopper's "Introduction to Medical Mycology" is unquestionably one of the best recent publications on mycology.

This book is much more than an introduction to this subject, for it gives one a clear, concise knowledge of the diagnosis as well as the latest therapeutic measures of fungous diseases.

The second chapter deals with the laboratory diagnosis and cultural methods in a very plain, practical way. The book is practical throughout, there is an absence of confusing nomenclature, and much stress is made on the recognition and treatment of the commoner dermatoses.

There are seventy-one clear-cut, excellent full-page plates, which give you an understanding picture of each disorder.

On account of the almost universal prevalence of fungous diseases, this book will be a valuable addition to any library.

Southern Medical News

ALABAMA

The Northwestern Division of the Alabama State Medical Association held its meeting December 7 at Parrish. At this meeting the Walker County Medical Society awarded plaques to Dr. Charles B. Jackson (posthumously) Jasper, for fifty-three years of distinguished service to the medical profession, and to Dr. Hugh W. Stephenson, Oakman, commemorating sixty years of active practice.

Dr. Wallace A. Clyde, former Chief of the Pediatric Staff, Employees' Hospital, Fairfield, has opened offices for the practice of pediatrics at 900 South 20th Street, Birmingham.

Deaths

Dr. John Hilliard Masterson, Leighton, aged 80, died November 16 as a result of a fall.

Dr. William Lamar Law, Prattville, aged 68, died October 13 of myocarditis.

Dr. Mark Johnson Williams, Oxford, aged 61, died September 23.

ARKANSAS

Dr. S. J. Wolfermann, Fort Smith, has been appointed a member of the Council of the Southern Medical Association from Arkansas for a regular Council term of five years, the appointment having been announced recently by the President, Dr. Arthur T. McCormack, Louisville, Kentucky. Dr. Wolfermann succeeds Dr. W. T. Wootton, Hot Springs National Park, who, having served the constitutional limit, was not eligible for reappointment.

The Prairie County Medical Society has elected the following officers for the coming year: President, Dr. Edward Adams, Hazen; President-Elect, Dr. W. J. B. Williams, Des Arc; Vice-President, Dr. J. R. Lynn, Hazen; Secretary-Treasurer, Dr. J. C. Gilliam, Des Arc.

The Third Councilor District Medical Society has elected the following officers for the coming year: President, Dr. T. G. Porter, Hazen; Secretary, Dr. M. C. John, Jr., Stuttgart.

Dr. Ulys Jackson, formerly of Marshall, has been appointed Health Officer of Boone County with headquarters in Harrison.

Dr. James F. Hays, formerly of Augusta, has been appointed Health Officer of Pope County with headquarters in Russellville.

Dr. Alvin V. Tate, formerly of Russellville, has been appointed Health Officer of Woodruff County with headquarters in Augusta.

Dr. Walter W. Brown, Hardy, has been appointed Health Officer of Sharp County, and has also been appointed local surgeon for the Frisco Lines.

Dr. C. M. Harwell, Osceola, took postgraduate work at Tulane University School of Medicine during November.

Dr. Raymond T. Smith and Dr. Ralph E. Crigler, Fort Smith, have been elected President and Second Vice-President, respectively, of the Fort Smith Kiwanis Club.

Dr. C. Lewis Hyatt is now associated with Dr. David T. Hyatt in Little Rock for the practice of medicine.

Dr. Wesley J. Ketz, formerly of Baltimore, Maryland, is now with Dr. Frank A. Gray, of Batesville, as surgeon for the Gray Infirmary.

Dr. W. M. Bowman, Hot Springs National Park, took special work at Rochester, Minnesota, during the month of October.

Dr. Jas. Pinkney Clemens has moved from Mt. Holly to Stephens.

MEDICAL NEWS continued on page 34

OFFICERS 1939-1940

The following is a complete roster of the officers of the Southern Medical Association for 1939-1940, and of associations meeting conjointly with the Southern Medical Association.

President—Dr. Arthur T. McCormack, Louisville, Kentucky.

President-Elect—Dr. Quitman U. Newell, St. Louis, Missouri.

First Vice-President—Dr. W. L. Williamson, Memphis, Tennessee.

Second Vice-President—Dr. E. W. Bertner, Houston, Texas.

Secretary-Manager (Secretary, Treasurer and General Manager)—Mr. C. P. Loranz, Birmingham, Alabama.

Editor of Journal—Dr. M. Y. Dabney, Birmingham, Alabama.

Associate Editor of Journal—Mrs. Eugenia B. Dabney, Birmingham, Alabama.

Councilors—Dr. Vincent W. Archer, Chairman, Charlottesville, Virginia; Dr. E. W. Rucker, Jr., Birmingham, Alabama; Dr. S. J. Wolfermann, Fort Smith, Arkansas; Dr. Oscar B. Hunter, Washington, D. C.; Dr. Luther W. Holloway, Jacksonville, Florida; Dr. Marion C. Pruitt, Atlanta, Georgia; Dr. E. L. Henderson, Louisville, Kentucky; Dr. Lucien A. LeDoux, New Orleans, Louisiana; Dr. J. Mason Hundley, Jr., Baltimore, Maryland; Dr. William H. Anderson, Booneville, Mississippi; Dr. Alphonse McMahon, St. Louis, Missouri; Dr. Hamilton W. McKay, Charlotte, North Carolina; Dr. Robert M. Anderson, Shawnee, Oklahoma; Dr. Kenneth M. Lynch, Charleston, South Carolina; Dr. Horton Casparis, Nashville, Tennessee; Dr. Guy F. Witt, Dallas, Texas; Dr. R. J. Wilkinson, Huntington, West Virginia. Executive Committee: Dr. Archer, Chairman, Dr. McMahon and Dr. Henderson.

Board of Trustees (All are Past-Presidents)—Dr. Hugh Leslie Moore, Chairman, Dallas, Texas; Dr. H. Marshall Taylor, Jacksonville, Florida; Dr. Fred M. Hodges, Richmond, Virginia; Dr. Frank K. Boland, Atlanta, Georgia; Dr. J. W. Jervey, Greenville, South Carolina; Dr. Walter E. Vest, Huntington, West Virginia.

Section on Medicine—Dr. Henry G. Rudner, Chairman, Memphis, Tennessee; Dr. W. G. Reddick, Vice-Chairman, Dallas, Texas; Dr. Roy H. Turner, Secretary, New Orleans, Louisiana.

Section on Pediatrics—Dr. Harvey F. Garrison, Chairman, Jackson, Mississippi; Dr. James W. Bruce, Vice-Chairman, Louisville, Kentucky; Dr. Warren W. Quillian, Secretary, Coral Gables, Florida.

Section on Gastroenterology—Dr. Chauncey W. Dowden, Chairman, Louisville, Kentucky; Dr. James L. Borland, Vice-Chairman, Jacksonville, Florida; Dr. Donovan C. Browne, Secretary, New Orleans, Louisiana.

Section on Pathology—Dr. Roy R. Kracke, Chairman, Emory University, Georgia; Dr. A. J. Miller, Vice-Chairman, Louisville, Kentucky; Dr. R. H. Rigdon, Secretary, Memphis, Tennessee.

Section on Neurology and Psychiatry—Dr. Spafford Ackerly, Chairman, Louisville, Kentucky; Dr. David C. Wilson, Vice-Chairman, Charlottesville, Virginia; Dr. Theodore A. Watters, Secretary, New Orleans, Louisiana.

Section on Radiology—Dr. Ralph E. Myers, Chairman, Oklahoma City, Oklahoma; Dr. David Y. Keith, Vice-Chairman, Louisville, Kentucky; Dr. W. R. Brooksher, Secretary, Fort Smith, Arkansas.

Section on Dermatology and Syphilology—Dr. Howard Hailey, Chairman, Atlanta, Georgia; Dr. A. B. Loveman, Vice-Chairman, Louisville, Kentucky; Dr. John H. Lamb, Secretary, Oklahoma City, Oklahoma.

Section on Allergy—Dr. Homer E. Prince, Chairman, Houston, Texas; Dr. Marion T. Davidson, Vice-Chairman, Birmingham, Alabama; Dr. Clarence K. Weil, Secretary, Montgomery, Alabama.

Section on Surgery—Dr. J. M. T. Finney, Jr., Chairman, Baltimore, Maryland; Dr. Claude J. Hunt, Vice-Chairman, Kansas City, Missouri; Dr. J. A. Crisler, Jr., Secretary, Memphis, Tennessee.

Section on Bone and Joint Surgery—Dr. J. Hiram Kite, Chairman, Atlanta, Georgia; Dr. F. Walter Carruthers, Vice-Chairman, Little Rock, Arkansas; Dr. Guy W. Leadbetter, Secretary, Washington, D. C.

Section on Gynecology—Dr. John F. Lucas, Chairman, Greenwood, Mississippi; Dr. E. C. Hamblen, Vice-Chairman, Durham, North Carolina; Dr. W. O. Johnson, Secretary, Louisville, Kentucky.

Section on Obstetrics—Dr. Robert M. Anderson, Chairman, Shawnee, Oklahoma; Dr. Joseph W. Reddoch, Vice-Chairman, New Orleans, Louisiana; Dr. R. A. White, Secretary, Asheville, North Carolina.

Section on Urology—Dr. Rex E. Van Duzen, Chairman, Dallas, Texas; Dr. Hubert K. Turley, Vice-Chairman, Memphis, Tennessee; Dr. Grayson Carroll, Secretary, St. Louis, Missouri.

Section on Proctology—Dr. Emmett H. Terrell, Chairman, Richmond, Virginia; Dr. Granville S. Hanes, Vice-Chairman, Louisville, Kentucky; Dr. Frederick B. Campbell, Secretary, Kansas City, Missouri.

Section on Railway Surgery—Dr. Edgar F. Fincher, Chairman, Atlanta, Georgia; Dr. J. J. Brandabur, Secretary, Huntington, West Virginia.

Section on Ophthalmology and Otolaryngology—Dr. Harvey B. Searcy, Chairman, Tuscaloosa, Alabama; Dr. W. Likely Simpson, Chairman-Elect, Memphis, Tennessee; Dr. Albert L. Bass, Vice-Chairman, Louisville, Kentucky; Dr. L. Chester McHenry, Secretary, Oklahoma City, Oklahoma.

Section on Anesthesia—Dr. R. Douglas Sanders, Chairman, Louisville, Kentucky; Dr. George S. Mechling, Vice-Chairman, Oklahoma City, Oklahoma; Dr. Merrill C. Beck, Secretary, New Orleans, Louisiana.

Section on Medical Education and Hospital Training—Dr. Robert U. Patterson, Chairman, Oklahoma City, Oklahoma; Dr. O. W. Hyman, Vice-Chairman, Memphis, Tennessee; Dr. Harvey B. Haag, Secretary, Richmond, Virginia.

Section on Public Health—Dr. W. B. Grayson, Chairman, Little Rock, Arkansas; Dr. L. M. Graves, Vice-Chairman, Memphis, Tennessee; Dr. Henry C. Ricks, Secretary, Jackson, Mississippi.

American Public Health Association, Southern Branch (meeting conjointly with Southern Medical Association)—Dr. G. Foard McGinnes, President, Memphis, Tennessee; Dr. Carl V. Reynolds, First Vice-President, Raleigh, North Carolina; Mr. James H. Stephens, Second Vice-President, Columbia, South Carolina; Miss Ruth A. Heintzelman, Third Vice-President, Washington, D. C.; Dr. P. E. Blackerby, Secretary-Treasurer, Louisville, Kentucky.

National Malaria Committee (meeting conjointly with Southern Medical Association)—Dr. L. O. Howard, Honorary Chairman, Washington, D. C.; Mr. W. G. Stromquist, Chairman, Chattanooga, Tennessee; Dr. J. N. Baker, Chairman-Elect, Montgomery, Alabama; Mr. John H. O'Neill, Vice-Chairman, New Orleans, Louisiana; Dr. Mark F. Boyd, Secretary-Treasurer, Tallahassee, Florida.

American Society of Tropical Medicine (meeting conjointly with Southern Medical Association)—Dr. L. L. Williams, Jr., President, Bethesda, Maryland; Dr. Thomas T. Mackie, President-Elect, New York, New York; Dr. Malcolm H. Soule, Vice-President, Ann Arbor, Michigan; Dr. E. Harold Hinman, Secretary-Treasurer, Wilson Dam, Alabama; Dr. Charles F. Craig, Editor, San Antonio, Texas. *American Academy of Tropical Medicine* (meeting conjointly with American Society of Tropical Medicine)—Dr. Chas. S. Butler, President, Bristol, Tennessee; Dr. Marshall A. Barber, Vice-President, Boston, Massachusetts; Dr. Ernest Carroll Faust, Secretary, New Orleans, Louisiana; Dr. Thomas T. Mackie, Treasurer, New York, New York.

Southern Association of Anesthetists (meeting conjointly with Southern Medical Association)—Dr. T. L. Tidmore, President, Atlanta, Georgia; Dr. R. Douglas Sanders, President-Elect, Louisville, Kentucky; Dr. C. E. Stindel, Vice-President, St. Louis, Missouri; Dr. Dougal M. Dollar, Secretary-Treasurer, Louisville, Kentucky.

Mississippi Valley Student Health Association (meeting conjointly with Southern Medical Association)—Dr. R. M. Powell, President, Knoxville, Tennessee; Dr. C. B. Mitchell, Vice-President, State College, Mississippi; Dr. Ruby H. Paine, Secretary-Treasurer, Berea, Kentucky.

Women Physicians of the Southern Medical Association—Dr. Nina Fay Calhoun, Chairman, Dallas, Texas; Dr. Miriam M. Drane, Vice-Chairman, Memphis, Tennessee; Dr. Laura M. Hobbs, Secretary, Miami, Florida.

Woman's Auxiliary to the Southern Medical Association—Mrs. Charles P. Corn, President, Greenville, South Carolina; Mrs. M. Pinson Neal, President-Elect, Columbia, Missouri; Mrs. L. S. Thompson, First Vice-President, Dallas, Texas; Mrs. Eustace A. Allen, Second Vice-President, Atlanta, Georgia; Mrs. H. V. Thomas, Recording Secretary, Clarksburg, West Virginia; Mrs. J. W. Bell, Corresponding Secretary, Walhalla, South Carolina; Mrs. K. W. Cosgrove, Treasurer, Little Rock, Arkansas; Mrs. W. T. Braun, Historian, Memphis, Tennessee; Mrs. W. H. Anderson, Parliamentarian, Booneville, Mississippi.

SOUTHERN MEDICAL ASSOCIATION

Minutes of Thirty-Third Annual Meeting

Memphis, Tennessee, November 21-24, 1939

GENERAL PUBLIC SESSION

Tuesday, November 21, 8:00 p. m.

A General Session, to which the public was invited, was held at the Municipal Auditorium, Memphis, Tennessee, and was called to order by the General Chairman, Dr. W. L. Williamson, Memphis, who presented the President, Dr. Walter E. Vest, Huntington, West Virginia, who presided.

Dr. Seale Harris, Past-President of the Southern Medical Association, Birmingham, Alabama, presented the subject "Vitamin Facts and Fads."

Dr. Irvin Abell, Professor of Surgery, University of Louisville School of Medicine, Past-President of the Southern Medical Association and of the American Medical Association, Louisville, Kentucky, presented the subject "Some of the Contributions of Medicine to Public Welfare."

Rev. Alphonse M. Schwitalla, S.J., Ph.D., Dean, St. Louis University School of Medicine, St. Louis, Missouri, presented the subject "Society's Debts to the Doctor."

Preceding the speaking a musical program was rendered by an orchestra.

GENERAL SESSION

PRESIDENT'S NIGHT

Wednesday, November 22, 8:00 p. m.

The Association met in General Session at the Peabody Hotel Ballroom, Memphis, and was called to order by Dr. W. L. Williamson, Memphis, General Chairman for the Committee on Arrangements, who presided during the first part of the session.

Rev. John L. Horton, Pastor, First Methodist Church, Memphis, delivered the invocation.

Dr. J. H. Francis, President, Memphis and Shelby County Medical Society, Memphis, delivered an Address of Welcome in behalf of the Society.

Dr. W. O. Baird, Henderson, President, Tennessee State Medical Association, delivered an Address of Welcome in behalf of the Association.

Dr. M. Pinson Neal, Columbia, Missouri, responded to the Addresses of Welcome in behalf of the Southern Medical Association.

The General Chairman, Dr. W. L. Williamson, then introduced the President of the Southern Medical Association, Dr. Walter E. Vest, Huntington, West Virginia, who presided during the remainder of the session.

Sitting with the President, by his invitation, in addition to the Past-Presidents of the Southern Medical Association, were a number of the Presidents of other medical associations, state, regional and national, and members of the Council of the Southern Medical Association, all being individually introduced by the President, Dr. Vest.

Dr. W. W. Crawford, Hattiesburg, Mississippi, Past-President of the Southern Medical Association, introduced Dr. Jere L. Crook, Jackson, Tennessee, Past-President of the Southern Medical Association, who presented a paper entitled "The Birth and Early Years of the Southern Medical Association", prepared jointly by Dr. Crawford and Dr. Crook.

Dr. Walter E. Vest, President of the Southern Medical Association, Huntington, West Virginia, read his President's Address entitled "Medicine As a Profession: Some Outstanding Obligations." (See page 1 of this issue of the JOURNAL.)

REPORT OF COUNCIL

Dr. Edgar G. Ballenger, Atlanta, Georgia, Chairman of the Council, presented the following report for the Council:

To the Members of the Southern Medical Association:

The Council convened in three sessions at the Peabody Hotel, Memphis, Tennessee, two on Tuesday and one on Wednesday, November 21-22, 1939. Present on Tuesday: Dr. Edgar L. Ballenger, Chairman, Atlanta, Georgia; Dr. E. W. Rucker, Jr., Birmingham, Alabama; Dr. W. T. Wootton, Hot Springs National Park, Arkansas; Dr. William Thornwall Davis, Washington, District of Columbia; Dr. Luther W. Holloway, Jacksonville, Florida; Dr. E. L. Henderson, Louisville, Kentucky; Dr. Lucien A. LeDoux, New Orleans, Louisiana; Dr. J. Mason Hundley, Jr., Baltimore, Maryland; Dr. Alphonse McMahon, St. Louis, Missouri; Dr. Hamilton W. McKay, Charlotte, North Carolina; Dr. Robert M. Anderson, Shawnee, Oklahoma; Dr. William Weston, Columbia, South Carolina, representing Dr. Kenneth M. Lynch, Charleston, South Carolina; Dr. Horton Casparis, Nashville, Tennessee; Dr. Guy F. Witt, Dallas, Texas; Dr. Vincent W. Archer, Charlottesville, Virginia; and Dr. R. J. Wilkinson, Huntington, West Virginia. Present on Wednesday: All those present on Tuesday and in addition Dr. Felix J. Underwood, Jackson, Mississippi, representing Dr. William H. Anderson, Booneville, Mississippi. Sitting with the Council: Dr. Walter E. Vest, President, Huntington, West Virginia; Dr. Arthur T. McCormack, President-Elect, Louisville, Kentucky; and Mr. C. P. Loranz, Secretary-Manager, Birmingham, Alabama.

To clarify the meaning and intent of Article 2 of the Constitution, the Council approved the following resolution:

RESOLVED, That the Southern Medical Association, a corporation organized and existing under the laws of the State of Alabama, amend "Article 2—Purpose" of its Constitution by inserting immediately following the first word in said Article 2 the word "exclusive" and striking from the first sentence of said Article 2 the words "and medical fraternalism" so that said Article 2 shall read as follows:

ARTICLE 2—Purpose. The exclusive purpose of this Association shall be to develop and foster scientific medicine. It shall have no direct connection with or control over any other society or organization, nor shall it at any time be controlled by any other society or organization. All meetings of the Association shall be for the sole purpose of reading and discussing papers pertaining to the science of medicine, to public health and to medical education. The Association shall not at any time take active part in any economic, po-

litical or sectarian questions, or concerted movements for securing legislative enactments.

This constitutional change will be laid on the table for final action at the next annual meeting.

To clarify the intent and meaning of the Articles of Incorporation of the Southern Medical Association, the Council approved the following resolution:

RESOLVED, That the Southern Medical Association, a corporation, organized and existing under the laws of the State of Alabama, amend Section numbered Fourth of its Certificate of Incorporation and Charter by striking therefrom the words "and medical fraternalism" and adding thereto, as the second word of the said Section numbered Fourth, the word "exclusive," so that said amended Section shall read: "The exclusive purpose of said Association is to foster and develop scientific medicine."

RESOLVED FURTHER, That the President and Secretary of this Association be, and they hereby are, authorized and directed to execute and file in the office of the Judge of Probate of Mobile County, Alabama, in manner and form as required by Section 6983 of the Code of Alabama of 1923, a proper certificate for the purpose of effecting said above named amendment to the Certificate of Incorporation and Charter of this Association.

The Council stood silently with bowed heads in memory of Dr. Oliver W. Hill, Knoxville, Tennessee, a member of the Council who died during the current year.

The Executive Committee, Dr. William Thornwall Davis, Chairman, Dr. Vincent W. Archer and Dr. Alphonse McMahon, reported for the Committee, the Committee having earlier in the year met at the headquarters office in Birmingham as directed by the Council last year.

The Council recommends that Article 3, Section 1, of the Constitution be amended to make eligible for membership in the Southern Medical Association white physicians who are connected with other departments of the Government not already mentioned in said Section.

The Council recommends that in the future the Committee to judge the Scientific Exhibits and to make the awards provided by the Association be composed of five members to be appointed by the Chairman of the Council a reasonable time in advance of the meeting, the names of the Committee to be kept secret until the report has been made.

The Council recommends that the Executive Committee report next year on a Committee to recommend to the Council the bestowal of the medal for original research.

The Council voted to rescind its previous action approving the Conference of Presidents, Presidents-Elect, Secretaries of state medical associations and Editors of state journals.

The report of the Board of Trustees, incorporating the report of the Secretary-Manager, was read and approved.

REPORT OF TRUSTEES

To the Council of the Southern Medical Association:

The Trustees of the Southern Medical Association met in the Pompeian Room of the Peabody Hotel, Memphis, Tennessee, Wednesday, November 22, at 8:00 a. m. Present: Dr. Irvin Abell, Chairman, Louisville, Kentucky; Dr. Hugh Leslie Moore, Dallas, Texas; Dr. Walter E. Vest, Huntington, West Virginia, representing Dr. Fred M. Hodges, Richmond, Virginia; Dr. T. W. Moore, Huntington, West Virginia, representing Dr. H. Marshall Taylor, Jacksonville, Florida; and Dr. Arthur T. McCormack, Louisville, Kentucky, representing Dr. Frank K. Boland, Atlanta, Georgia. Sitting with the Trustees: Mr. C. P. Loranz, Secretary-Manager, Birmingham, Alabama.

The Secretary-Manager, Mr. C. P. Loranz, presented his report for the fiscal year ending October 31, 1939. The report was approved as presented and Mr. Loranz was extended the thanks and appreciation of the Board for the splendid showing made for the year. The report is here transmitted to the Council.

The Board recommends a salary increase of $50.00 per month to the Secretary-Manager and $25.00 per month to the Editor.

There being no further business, the Trustees adjourned.

(Signed) IRVIN ABELL, *Chairman.*

REPORT OF SECRETARY-MANAGER

To the Southern Medical Association:

A detailed financial statement for the fiscal year ending October 31, 1939, is here given and is self-explanatory. It will be noted that the net profit for the year is $5,983.35. The cash on hand in bank as shown by the cash book is $6,152.23.

Included in the assets of the Association are registered United States Government Bonds, purchase value $30,156.40. Of these there are Treasury Bonds, for which we paid $9,831.40, par value $10,000.00 due 1946/1956, yielding 3¼ per cent interest; and United States Savings Bonds, for which we paid $20,325.00, payable in ten years, yielding approximately 2.9 per cent per year for the ten-year period. The purchase of these bonds was authorized by the Board of Trustees.

The books of the Association have been audited by Francis B. Latady & Company, Certified Public Accountants, and their report is transmitted herewith.

Last year we reported 7,281 members, and during the year we received 764 new members. The losses from resignations, deaths and suspensions were 582, leaving a net membership at this time of 7,463, a net gain for the year of 182. A comparative statement of membership for the past seven years accompanies this report.

As your Secretary, Treasurer and General Manager, carrying the title of Secretary-Manager, I have endeavored this year, as I have in past years, to conduct your affairs in a satisfactory manner, trying at all times to be faithful and efficient. I have tried to be as economical as possible and to carry on the Association activities at the lowest cost without curtailing any more than possible the size of the JOURNAL each month and other Association activities.

I wish to express my appreciation for the cooperation of the President, Dr. Walter E. Vest, and all other officers, general and of the sections, and the Editor, Dr. M. Y. Dabney, and Associate Editor, Mrs. Dabney, and all those working with me at headquarters, as well as the General Chairman for the Memphis meeting, Dr. W. L. Williamson, and those working with him. I appreciate their help and cooperation.

(Signed) C. P. LORANZ, *Secretary-Manager.*

REPORT OF AUDITOR

Southern Medical Association:

We have audited the books and accounts of the Southern Medical Association of Birmingham, Alabama, for the year ending October 31, 1939, and

WE HEREBY CERTIFY that in our opinion the Trial Balance, Summary of Earnings, Surplus Account and Statement of Assets and Liabilities, as at October 31, 1939, which are hereto attached, correctly set forth the condition of the Association as at October 31, 1939, and its operations for the year ending on that date.

Your Association is not organized for profit, and such improvement as may occur in the net worth account is due simply to the fact that all of the revenues of a particular year cannot be exactly expended in that year. You have accumulated the reserve decided upon, in the form of U. S. Government Bonds, merely to care for a rainy day. It is very interesting to observe just how the Association has grown, and has increased the scope of its service to the medical profession and to the country.

The proof is ample that the Association is carrying out in the most efficient manner possible the aims of its foundation, improving service in the most definite ways in every department of its activities.

As always in the past, we found the accounts, books and records in the most orderly and accurate condition, and renew those compliments upon these matters which we have often made in past reports.

Yours very truly,

FRANCIS B. LATADY & CO.
Certified Public Accountants.
FRANCIS B. LATADY, C.P.A.

Birmingham, Alabama, November 18, 1939.

BALANCE SHEET

Balance Sheet, Southern Medical Association, Fiscal Year Ending October 31, 1939 (November 1, 1938, to October 31, 1939)

		Debits	*Credits*
Surplus			$ 36,863.64
U. S. Government Bonds		$ 30,156.40	
Furniture and Fixtures		4,186.14	
Profit and Loss		492.49	
Paper Stock (print paper on hand)		1,605.86	
Depreciation			1,060.48
Revenue			
Advertising	$25,731.06		
Dues	27,387.70		
Subscriptions	1,526.65		
Reprints	350.90		
Exhibits	20,820.00		
Interest on Bonds and Sav.	375.00		
Paper Stock Profit	1,353.83		
Interest and Discount	487.86—		78,033.00
Expenses			
Publishing	$20,059.07		
Cuts and Electros	2,221.50		
Journal Wrappers	465.30		
Second Class Postage	1,360.00		
Office Postage	2,146.90		
Salary	19,889.60		
Stationery and Printing	5,875.11		
Office Supplies and Expense	635.23		
Telephone and Telegraph	546.06		
Office Rent	1,707.40		
Subscription Commissions	21.00		
Advertising Expense	224.58		
Addressograph Expense	61.89		
Traveling Expense	3,025.75		
Expense at Oklahoma City	10,683.89		
Banking Expense	21.70		
Publicity Consulting Ser.	260.00		
Section Secretaries' Expense	163.25		
Woman's Auxiliary	200.00		
Attorney's Fees and Exp.	500.00		
Publicity on Appendiceal Dis.	162.35		
General Expense	1,326.58—	71,557.16	
Accounts Receivable (owe us)		1,982.84	
Accounts Payable (we owe)			176.00
Cash		6,152.23	
		$116,133.12	$116,133.12

SUMMARY OF EARNINGS

Revenue Accounts	$78,033.00
Expense Accounts	71,557.16
Gross Profit	6,475.84
Less Profit and Loss	492.49
Net Profit for Year Ending October 31, 1939	5,983.35

SURPLUS ACCOUNT

Surplus, October 31, 1938	$36,863.64
Net Profit for Year Ending October 31, 1939	5,983.35
Surplus, October 31, 1939	$42,846.99

STATEMENT OF ASSETS AND LIABILITIES
October 31, 1939

Assets

U. S. Government Bonds	$30,156.40
Paper Stock (print paper on hand)	1,605.86
Furniture & Fixtures (Net—Less Depreciation)	3,125.66
Accounts Receivable (owe us)	1,982.84
Cash	6,152.23
	$43,022.99

Liabilities

Surplus	$42,846.99
Accounts Payable (we owe)	176.00
	$43,022.99

MEMBERSHIP BY STATES

The following is a comparative statement of the membership of the Southern Medical Association for the past seven years:

	1933	1934	1935	1936	1937	1938	1939
Alabama	470	513	458	466	452	439	426
Arkansas	175	220	202	219	227	207	246
District of Columbia	149	157	154	173	192	180	164
Florida	346	404	372	355	383	378	374
Georgia	424	502	524	506	543	522	548
Kentucky	331	228	332	345	340	327	359
Louisiana	445	419	443	420	523	588	544
Maryland	251	252	245	482	522	486	412
Mississippi	335	345	333	297	347	370	372
Missouri	191	199	419	521	486	432	462
North Carolina	307	375	365	402	431	410	375
Oklahoma	207	236	258	262	258	515	744
South Carolina	182	204	185	193	218	215	198
Tennessee	421	464	459	471	459	455	474
Texas	587	944	1160	1102	914	1038	1036
Virginia	310	402	382	384	417	403	411
West Virginia	140	185	183	211	217	241	246
Other States and Foreign	86	83	93	102	92	75	72
Totals	5357	6132	6567	6911	7021	7281	7463

The invitation of the Jefferson County Medical Society, Louisville, Kentucky, for the Association to meet in Louisville in 1940 was accepted unanimously. The Harris County Medical Society, Houston, Texas, and the St. Louis Medical Society, St. Louis, Missouri, extended invitations for 1941, these invitations to be considered at the annual meeting next year.

Dr. Isidore Cohn, New Orleans, Louisiana, and Dr. Jere L. Crook, Jackson, Tennessee, reported for the Committee on Appendiceal Publicity, approved by the Council last year. The Council extended thanks to the Committee for the work they are doing. Regret was expressed at the inability of the Chairman, Dr. J. M. T. Finney, Jr., Baltimore, to be present on account of illness, the Secretary being instructed to send him a telegram of sympathy.

The Council, speaking for the Association, expresses to the Memphis and Shelby County Medical Society, the hotels, the press and the radio broadcasting stations of Memphis and to all others who have contributed so much to the success of the meeting in this City their sincere appreciation for the hospitality extended to us while guests in Memphis. It is the opinion of the Council that this, the Memphis meeting, has been one of the best in the history of the Association. Those who are in attendance have enjoyed the sincere hospitality of the profession and feel that a great measure of credit for the success of the meeting is due to the interest manifested by the local profession and by the citizens of Memphis.

The Secretary-Manager was instructed to send flowers and greetings to Dr. W. M. Anderson, Councilor from Mississippi, who is ill in the hospital; flowers and greetings to a former member of the Council, Dr. Eugene Rosamond, Memphis, who is ill; flowers and greetings to another former member of the Council, Dr. J. A. Crisler, Sr.; flowers and greetings to Mrs. Frank A. Jones, Memphis, wife of a former President; flowers and greetings to Mrs. E. W. Rucker, wife of a member of the Council, ill at a hospital in Birmingham; flowers and greetings to Dr. P. E. Blackerby, a former officer of the Association, who was injured together with Mrs. Blackerby, in an automobile accident en route to the meeting.

The Council elected Dr. E. L. Henderson, Louisville, Kentucky, a member of the Executive Committee for three years to succeed Dr. William Thornwall Davis, whose time had expired.

The Council elected Dr. Vincent W. Archer, Charlottesville, Virginia, Chairman of the Executive Committee.

The Council proceeded to the election of three Trustees for the term of two years each, the terms of Dr. Irvin Abell, Louisville, Kentucky, Dr. H. Marshall Taylor, Jacksonville, Florida, and Dr. Frank K. Boland, Atlanta, Georgia, expiring with this meeting. According to precedent, Dr. Abell, oldest member in

point of service, was retired. Dr. Taylor and Dr. Boland were re-elected and the outgoing President, Dr. Walter E. Vest, was elected in place of Dr. Abell.

The Council unanimously elected Dr. Vincent W. Archer, Charlottesville, Virginia, as its Chairman for next year.

A rising vote of thanks was extended to the three Councilors who are retiring at this meeting, Dr. Edgar G. Ballenger, Chairman, Atlanta, Georgia, Dr. W. T. Wootton, Hot Springs National Park, Arkansas, and Dr. William Thornwall Davis, Washington, D. C., for the splendid service they have rendered the Association as members of the Council during their councilor terms.

The Council then adjourned as an executive body to meet in Louisville, Kentucky, at the regular meeting in 1940.

The Council then convened as a Nominating Committee for the general officers of the Association, these nominations to be presented later in the regular order of business.

(Signed) EDGAR G. BALLENGER, *Chairman.*

It was moved that the Report of the Council be adopted, was duly seconded, and carried without a dissenting vote.

REPORT OF NOMINATING COMMITTEE

Dr. Edgar G. Ballenger, Atlanta, Georgia, Chairman of the Nominating Committee, presented the report of the Committee.

The Council, as your Nominating Committee, presents for your consideration the following:

For President-Elect: Dr. Quitman U. Newell, St. Louis, Missouri.

For First Vice-President: Dr. W. L. Williamson, Memphis, Tennessee.

For Second Vice-President: Dr. E. W. Bertner, Houston, Texas.

Your Secretary, Treasurer and General Manager, carrying the title of Secretary-Manager, Mr. C. P. Loranz, was elected three years ago for a term of five years.

Your Editor, Dr. M. Y. Dabney, and Associate Editor, Mrs. Eugenia B. Dabney, were elected two years ago for a term of three years.

(Signed) EDGAR G. BALLENGER, *Chairman.*

It was moved that the Report of the Nominating Committee be received and the nominees be elected by acclamation. The motion was duly seconded and carried without a dissenting vote. The President, Dr. Vest, declared the nominees duly elected.

Dr. Quitman U. Newell, St. Louis, Missouri, newly elected President-Elect of the Southern Medical Association was escorted to the platform and introduced by the President, Dr. Vest. Dr. Newell, in accepting the office of President-Elect, said:

Mr. President, Members of the Southern Medical Association, Ladies and Gentlemen:

I cannot begin to tell you how happy you have made me tonight. Words fail me to express adequately my thanks for the honor you have bestowed upon me. I have received other honors, but none so great as the office of President-Elect of the Southern Medical Association.

My predecessor, our incoming President, Dr. McCormack, is a real big man and wears large shoes, and for me to fill his shoes will be a real man's job, but with the help and cooperation of you all, I shall strive earnestly and diligently and give my best to carry on the high ideals of this organization which is second to none.

In receiving this honor I feel it is an honor coming to the medical profession of Missouri and does not belong to me personally. It is true I shall be at the wheel, but it takes one and all to make the machine roll on and keep up the good work my predecessors have begun.

Dr. W. L. Williamson, Memphis, Tennessee, newly elected First Vice-President, was introduced by the President, Dr. Vest, and responded. Dr. E. W. Bertner, Houston, Texas, newly elected Second Vice-President, was not present.

After announcements by the General Chairman, Dr. Williamson, the General Session adjourned, and with the completion of the programs by the Sections in session Thursday and until noon Friday, the Association adjourned to meet in Louisville, Kentucky, November 12-15, 1940.

SCIENTIFIC AWARDS

The Committee on Scientific Awards presented the following report:

Your Committee on Scientific Awards visited the scientific exhibits and, after studying the exhibits, make the following report:

First award to Dr. Graham Asher, University of Kansas School of Medicine, Kansas City, Missouri, for his exhibit on lag screen electrocardiography.

Second award to Dr. R. H. Rigdon, University of Tennessee College of Medicine, Memphis, Tennessee, for his exhibit on observations on capillary permeability and inflammation. (Part of this work was carried out at Vanderbilt University School of Medicine, Nashville.)

Third award to Dr. C. E. Sanders, Kansas City, Missouri, for his exhibit on the demonstration of vasoscillator and intermittent venous occlusion.

Honorable mention to—

Dr. W. W. Waddell, Jr., Dr. DuPont Guerry, III, and Dr. McLemore Birdsong, University of Virginia Department of Medicine, Charlottesville, Virginia, for their exhibit on the role of vitamin K in the etiology, prevention and treatment of hypoprothrombinemia and hemorrhage in the newly-born.

Dr. G. O. Broun and Dr. K. R. Andrews, St. Louis University School of Medicine, St. Louis, Missouri, for their exhibit on prevention of cholesterol atherosclerosis in the rabbit: comparison of action of pancreatic extracts and choline.

Dr. Henry H. Turner, University of Oklahoma School of Medicine, Oklahoma City, Oklahoma, for his exhibit on clinical endocrinology.

Dr. Willard Bartlett, Jr., St. Louis University School of Medicine, and Dr. Robert W. Bartlett, Washington University School of Medicine, St. Louis, Missouri, for their exhibit on original studies of goiter.

Dr. W. Edward Chamberlain, Temple University School of Medicine, Philadelphia, Pennsylvania, for his exhibit on the roentgenologist's part in the study of low back pain.

Dr. J. A. McIntosh, Dr. Edwin W. Cocke, Dr. Leo F. Pierotti, Dr. Albert J. Grobmyer, Jr., and (Sr.) M. Philonilla, Memphis, Tennessee, for their exhibit on artificial fever therapy.

Dr. J. L. Scianni, University of Tennessee College of Medicine, Memphis, Tennessee, for his exhibit on medical art.

(Signed) ROBERT M. HOWARD, *Chairman.*
VIRGIL E. SIMPSON,
ELIZABETH BASS,
Committee.

The Committee on Scientific Awards consists each year of the Chairman of the Section on Surgery, the Chairman of the Section on Medicine, and the Chairman of the Section on Pathology. Dr. Robert M. Howard, as Chairman of the Section on Surgery, was Chairman of the Committee; Dr. Virgil E. Simpson was Chairman of the Section on Medicine; and Dr. Elizabeth Bass was Chairman of the Section on Pathology.

GOLF TOURNAMENT

Dr. J. S. Speed, Memphis, Chairman of the Golf Committee, makes the following report for his Committee:

The nineteenth annual Golf Tournament for physicians of the Southern Medical Association was held in Memphis, Tennessee, at the Colonial Country Club on Tuesday, Wednesday and Thursday, November 21-23. Forty-three physicians entered for the tournament.

Dr. Jere L. Crook, Jackson, Tennessee, won the tournament for low gross, senior class (physicians fifty and over) with a score of 86, receiving the Ralston Purina Cup, the major trophy for this event.

Dr. Brandon Carrell, Dallas, Texas, won the tournament for low gross, junior class (physicians under fifty), with a score of 77, receiving the *Oklahoman and Times* Cup, the major trophy for this event.

Dr. King Wade, Hot Springs National Park, Arkansas, was the runner-up in low gross, with a score of 80, receiving the Schwarzschild Cup, the major trophy for this event.

Dr. Hugh Jeter, Oklahoma City, Oklahoma, won the handicap tournament for low net, with a score of 81, handicap 14, net 67, receiving the *Dallas Morning News* Cup, the major trophy for this event.

Dr. R. K. Hollingsworth, Washington, D. C., received the prize for high on eighteen holes, with a score of 107.

Dr. D. W. Darwin, Woodward, Oklahoma, received the prize for low putts on eighteen holes, with a score of 29.

Dr. John H. Foster, Houston, Texas, won the prize for blind hole with a score of 2.

Dr. Robert A. Johnston, Houston, Texas, won the prize for the most number of fives on eighteen holes with a score of 12 fives.

The *Oklahoman and Times* Cup, the *Dallas Morning News* Cup, the Schwarzschild Cup and the Ralston Purina Cup must be won three times in succession by the same golfer to become the permanent possession of any golfer. In so far as none of these trophies have been won three times in succession, they will all be in play next year.

(Signed) J. S. SPEED, *Chairman.*

TRAP SHOOTING TOURNAMENT

Dr. S. S. Evans, Memphis, Chairman of the Trap Shooting Committee, makes the following report for his Committee:

The fourteenth annual Trap Shooting Tournament of the Southern Medical Association, to which skeet has been added in recent years, was held over the traps of the Rugby Hills Gun Club, Memphis, Tennessee, Wednesday, November 22, beginning at 1:00 p. m.

Dr. Malcolm E. Phelps, El Reno, Oklahoma, the high man on 100-16 yard targets, straight trap, won a leg on the *Atlanta Journal* Bowl, the major trophy for this event, with a score of 93.

Dr. W. C. Vernon, Okmulgee, Oklahoma, the high man on skeet, 50 targets, won a leg on the Sharp and Dohme Bowl, the major trophy for this event, with a score of 47.

Dr. S. S. Evans, Memphis, Tennessee, high man in the high over-all, 100-16 yard targets, straight trap, and fifty skeet, won a leg on the Mallinckrodt Bowl, the major trophy for this event, with a score of 133.

In addition to the trophies for the three major events, prizes were given for some minor events.

There were fourteen entries for the shoot, the weather was fine and the shoot went off well and was enjoyed by all the shooters.

The *Atlanta Journal* Bowl, the Sharp and Dohme Bowl, and the Mallinckrodt Bowl must each be won three times in succession by the same shooter to be the permanent possession of any shooter. No one having won these trophies three times in succession, they will be in competition at the Tournament shoot again next year.

(Signed) S. S. EVANS, *Chairman.*

REGISTRATION

Memphis Meeting, Southern Medical Association, November 21-24, 1939

	Number Physicians	Number Ladies Accompanying Physicians
Alabama	133	45
Arkansas	199	87
District of Columbia	33	4
Florida	35	11
Georgia	76	18
Kentucky	103	35
Louisiana	99	33
Maryland	18	7
Mississippi	215	77
Missouri	134	53
North Carolina	48	11
Oklahoma	108	46
South Carolina	43	6
Tennessee (outside Memphis)	211	65
Memphis	385	—
Texas	163	56
Virginia	53	9
West Virginia	37	18
Other States and Foreign	129	31
Total Physicians	2222	612
Sanitary Engineers and Sanitation Officers—Tenn. and Other States	93	13
Sanitary Engineers and Sanitation Officers—Memphis	16	
Health Departments—Tenn. and Other States	19	
Health Departments—Memphis	49	
Nurses—Tenn. and Other States	84	
Nurses and Technicians—Memphis	334	
Medical Students—Memphis (University of Tennessee)	289	
Medical Students—Other States	21	
Students—Memphis (Pre-Med., etc.)	102	
Miscellaneous—Tennessee and Other States	49	
Miscellaneous—Memphis	60	
With Technical Exhibits	300	
	3638	625
Ladies	625	
Grand Total	4263	

These figures are compiled from the card registration. There are always a number of physicians attending who neglect to register. The number attending who fail to register is estimated at from 3 to 10 per cent of the total registration. It is believed that at least 3 per cent (probably more) of the physicians who attended the Memphis meeting failed to register, and if this be true, an additional 67 physicians should be added to the 2,222 who did register, making the actual attendance apparently at least 2,289 physicians, with a grand total of 4,330.

WOMEN PHYSICIANS OF THE SOUTHERN MEDICAL ASSOCIATION

Officers

Chairman—Dr. Margaret Mary Nicholson, Washington, D. C.
Vice-Chairman—Dr. Leila E. Andrews, Oklahoma City, Oklahoma.
Secretary—Dr. Nina Fay Calhoun, Dallas, Texas.

Thursday, November 23, 7:00 p. m.

The twenty-sixth annual meeting and dinner of Women Physicians of the Southern Medical Association was held at the Gayoso Hotel, Memphis, Tennessee, Thursday, November 23, at 7:00 p. m.

Dr. Miriam M. Drane, Memphis, Tennessee, Local Chairman for Women Physicians, welcomed the visiting women physicians and presented the Chairman, Dr. Margaret Mary Nicholson, Washington, D. C., who presided.

Each woman physician present introduced herself, recounting some humorous incident which had occurred in the course of her practice.

Dr. Florence Rena Sabin, Member Emeritus, Rockefeller Institute for Medical Research, Denver, Colorado, gave an impromptu address.

Dr. May Agnes Hopkins, Dallas, Texas, gave an interesting account of her recent trip to Europe.

Letters were read from a number of women physicians unable to be present at the Memphis meeting.

The Chairman, Dr. Nicholson, in behalf of the group, extended a vote of thanks to the members of the Local Committee—Dr. Miriam M. Drane, Dr. Alma Richards, Dr. Louise Powell, Dr. Anna Dean Dulaney and Dr. Harriet Anderson.

Dr. Nora Dean, Louisville, Kentucky, extended a cordial invitation to women physicians to attend the next annual meeting to be held in Louisville.

The Nominating Committee reported the following nominations for officers, the nominees being unanimously elected:

Chairman—Dr. Nina Fay Calhoun, Dallas, Texas.
Vice-Chairman—Dr. Miriam M. Drane, Memphis, Tennessee.
Secretary—Dr. Laura M. Hobbs, Miami, Florida.

Women Physicians were the guests of the Women Physicians of Memphis and the Women Students of the University of Tennessee College of Medicine at an informal tea at University Center, Thursday afternoon.

Thirty-five women physicians were in attendance upon the Memphis meeting.

CONFERENCE OF PRESIDENTS, PRESIDENTS-ELECT, SECRETARIES AND EDITORS

The Presidents, Presidents-Elect and Secretaries of state medical associations of the states comprising the Southern Medical Association and Editors of state medical journals in these states, had a get-together meeting at Memphis, Tennessee, Tuesday, November 21, a dinner at 6:00 p.m. in the Georgian Room of the Peabody Hotel. The Conference was similar to those held in Baltimore in 1936, New Orleans in 1937, and Oklahoma City in 1938. The Conference is an independent group and has no connection with the Southern Medical Association, the Association meeting offering a convenient time and place to hold the Conference.

All the Presidents, Presidents-Elect, Secretaries and Editors in the states comprising the Southern Medical Association were invited to this get-together conference meeting, held for the purpose of exchanging ideas, for informal discussion of matters of mutual interest, and for the dissemination of information—a general round table session.

Dr. Harvey F. Garrison, Chairman of the Conference, Jackson, Mississippi, called the Conference to order and presided.

RADIO BROADCASTS

The four Radio Broadcasting Stations of Memphis cooperated with the Southern Medical Association in connection with the Memphis meeting and the Association was on the air for the following program:

Tuesday, November 21

Station W R E C, 12:45 p.m., "Some Contributions of Medicine to Public Welfare," Irvin Abell, Past-President, Southern Medical Association, Past-President, American Medical Association, and Clinical Professor of Surgery, University of Louisville School of Medicine, Louisville, Kentucky.

Station W M C, 5:15 p. m., "Medical Achievements," Walter E. Vest, President, Southern Medical Association, Huntington, West Virginia.

Station W M P S, 11:05 a.m., "Society's Debts to the Doctor," Rev. Alphonse M. Schwitalla, S.J., Ph.D., Dean, St. Louis University School of Medicine, St. Louis, Missouri.

Station W H B Q, 11:45 a.m., "The Family Doctor of Today," Arthur T. McCormack, President-Elect, Southern Medical Association and State Health Officer of Kentucky, Louisville, Kentucky.

Wednesday, November 22

Station W R E C, 12:45 p.m., "The Adult's Mental Health," Rock Sleyster, President, American Medical Association, Wauwatosa, Wisconsin.

Station W M C, 4:45 p. m., "The Prevention of Tuberculosis," Paul H. Ringer, Vice-President, National Tuberculosis Association, and Past-President, Southern Tuberculosis Conference, Asheville, North Carolina.

Station W M P S, 11:05 a.m., "Making Motherhood Safe," Quitman U. Newell, Professor Clinical Obstetrics and Gynecology, Washington University School of Medicine, St. Louis, Missouri.

Station W H B Q, 5:00 p.m., "Medical Aspects of Child Training," Horton Casparis, Professor of Pediatrics, Vanderbilt University School of Medicine, Nashville, Tennessee.

Thursday, November 23

Station W R E C, 12:15 p.m., "Good Sense and the Control of Syphilis," R. A. Vonderlehr, Assistant Surgeon General, U. S. Public Health Service, Washington, D. C.

Station W M C, 5:15 p. m., "Early Diagnosis of Cancer," M. Y. Dabney, Editor, Southern Medical Journal, Birmingham, Alabama.

Station W H B Q, 11:15 a.m., "Cancer As It Particularly Effects Women," Lucien A. LeDoux, Associate Professor of Gynecology, Louisiana State University Graduate School of Medicine, New Orleans, Louisiana.

MOTION PICTURES

As part of the Memphis meeting there were motion pictures at the Municipal Auditorium, Room No. 5 and Room No. 6, running continuously Wednesday and Thursday, November 22 and 23 from 8:30 a.m. until 6:00 p.m.

Three times each day at specified times there was a request period, at which time any film on the regular program or any film approved by the management could be run provided it did not interfere with the regular program. At each request period films on the regular program and films not on the regular program were run.

The films on the regular program in Room No. 5, which ran twice each day at specified times were:

"Intravenous Anesthesia" (12 minutes), Arthur R. Porter, Jr., University of Tennessee College of Medicine, Memphis, Tenn.

"Epidural Injection: A Newer Treatment of Chronic Idiopathic Sciatica" (15 minutes), Michael C. Kolczun, C. B. Odom and Irvin Cahen, Louisiana State University Medical Center, New Orleans, La.

"Intraspinal Herniation of the Intervertebral Causing Low Back Pain and Sciatica" (15 minutes), R. Eustace Semmes and Francis Murphey, University of Tennessee College of Medicine, Memphis, Tennessee.

"Improved Methods of Treatment of Fractures of the Femur and Compound Fractures of the Tibia and Fibula" (10 minutes), Charles T. Berry, Greenville, Miss.

"End Results Following Treatment of Acute and Ununited Fractures of the Neck of the Femur" (20 minutes), Willis C. Campbell, J. S. Speed, H. B. Boyd and Hugh Smith, Memphis, Tennessee.

"Fractures of the Femur: Fragment Displacement and Reduction" (30 minutes), H. Theodore Simon, Louisiana State University Medical Center, New Orleans, La.

"Improvements in Technic of Supravaginal Hysterectomy" (15 minutes), Hugh A. Gamble and Paul G. Gamble, Greenville, Miss.

"Gastric Resection for Carcinoma" (12 minutes), John Roberts Phillips, Houston, Tex.

"Ambulent Ligation of the Great Saphenous Vein, Combined with Injection Treatment" (15 minutes), Penn Riddle, Baylor University College of Medicine, Dallas, Tex.

"Technic of Corrective Rhinoplasty" (14 minutes), Waldemar R. Metz, New Orleans, La.

"Radical Operation for Carcinoma of Breast" (25 minutes), Charles F. Sherwin, St. Louis, Mo.

"Gastrojejunostomy: A New Button Technic. Other Devices" (20 minutes), Nicholas A. Schneider and Vincent A. Schneider St. Louis University School of Medicine, St. Louis, Mo.

The films on the regular program in Room No. 6, which ran twice each day at specified times were:

"Clinical Observation of the Lag-Screen Electrocardiogram" (12 minutes), Graham Asher, University of Kansas School of Medicine, Kansas City, Mo.

"Administration of Synthetic Androgens by Pellet Implantation and Pellet Injection" (14 minutes), John Eager Howard, Johns Hopkins University School of Medicine, Baltimore, Md., and Samuel A. Vest, Jr., University of Virginia Department of Medicine, Charlottesville, Va.

"Cancer of the Rectum" (20 minutes), W. Kress McIntyre, St. Louis University School of Medicine, St. Louis, Mo.

"Improved Technic of Low Cesarean Section" (15 minutes), Eugene T. Ellison, Greenville, Miss.

"(1) Leukorrhea: Its Causes and Treatment" (15 minutes), and (2) Sterility: Its Causes and Treatment" (15 minutes), Karl John Karnaky, Houston, Tex.

"Late Functional Results in Free Skin Grafting of Burns" (22 minutes), J. Barrett Brown and Frank McDowell, Washington University School of Medicine, St. Louis, Mo.

"Calibrated Deep Intermediate Skin Grafts" (12 minutes), Earl C. Padgett, University of Kansas School of Medicine, Kansas City, Mo.

"Plastic Surgery" (15 minutes), Wm. Milton Adams, University of Tennessee College of Medicine, Memphis, Tenn.

"Cataract Operations" (15 minutes), John O. McReynolds, Dallas, Tex.

"Surgery of Strabismus" (30 minutes), Ray K. Daily, Houston, Texas.

SCIENTIFIC AND TECHNICAL EXHIBITS

The Scientific and Technical Exhibits in connection with the thirty-third annual meeting of the Southern Medical Association were all placed on the ground floor of the Municipal Auditorium, Memphis, Tennessee, and were open on Tuesday, Wednesday and Thursday, November 21-22-23, from 8:00 a. m. to 6:00 p.m. and on Friday, November 24, from 8:00 a.m. to 1:00 p.m.

There were eighty-eight (88) Scientific Exhibits, representing all phases of medicine and surgery, many of them being original research work. The Scientific Exhibits were conveniently placed and arranged so they could be easily seen and studied. See pages 101-103 for complete list of Scientific Exhibits and page 122 for the exhibit diagram.

In the Technical Exhibits there were sixty-seven (67) business firms with a total of one hundred and fourteen exhibit spaces. See page 122 for complete list of business firms and exhibit diagram. A larger number of business firms could have been had if there had been space available for more technical exhibit spaces.

SCIENTIFIC EXHIBITS

The following were the Scientific Exhibits at the Memphis meeting:

Space No.

Art in Medicine

1. Dr. J. L. SCIANNI, University of Tennessee College of Medicine, Memphis, Tenn.: Medical Art.

Laboratory and Bacteriology

2. Dr. R. B. H. GRADWOHL, St. Louis, Mo.: (1) Facts on Blood Grouping with Special Reference to Subgroups A_1 and A_2; (2) Use of Absorbed B Serum and the Medicolegal Features of Identification of Blood Spots; and (3) the M and N Sera in Paternity Cases.

3. REGISTRY OF MEDICAL TECHNOLOGISTS, American Society of Clinical Pathologists, Denver, Colo.: The Registration of Medical Technologists.

Artificial Fever Therapy

4. Dr. J. A. McINTOSH, Dr. EDWIN W. COCKE, Dr. LEO F. PIEROTTI, Dr. ALBERT J. GROBMYER, JR., and (Sr.) M. PHILONILLA, Memphis, Tenn.: Artificial Fever Therapy.

Pediatrics

5. Dr. W. W. WADDELL, JR., Dr. DuPONT GUERRY, III, and Dr. McLEMORE BIRDSONG, University of Virginia Department of Medicine, Charlottesville, Va.: The Role of Vitamin K in the Etiology, Prevention and Treatment of Hypoprothrombinemia and Hemorrhage in the Newly-Born.

6. Dr. G. A. C. JENNINGS (D.D.S.), Medical College of Virginia, Department of Dentistry, Richmond, Va.: Growth and Development of Teeth and Jaws.

7. CHILDREN'S BUREAU. U. S. Department of Labor, Washington, D. C.: (1) The Influence on the Growth and Development of Infants in the Neonatal Period of Such Factors as Race, Sex and Economic Status, and (2) Statistical Data on Neonatal Mortality.

Cardiovascular Disease

8. Dr. GRAHAM ASHER, University of Kansas School of Medicine, Kansas City, Kan.: Lag-Screen Electrocardiography.

9. Dr. C. E. SANDERS, Kansas City, Mo.: Demonstration of Vasoscillator and Intermittent Venous Occlusion.

See also exhibit 78.

Vitamins

10. Dr. W. C. LANGSTON, Dr. PAUL L. DAY, Dr. WM. J. DARBY and Dr. CARROLL F. SHUKERS, University of Arkansas School of Medicine, Little Rock, Ark.: Nutritional Cytopenia (Vitamin M Deficiency) in the Monkey.

Medicine

11. Dr. G. O. BROUN and Dr. K. R. ANDREWS, St. Louis University School of Medicine, St. Louis, Mo.: Prevention of Cholesterol Atherosclerosis in the Rabbit: Comparison of Action of Pancreatic Extracts and Choline.

12. Dr. JOHN EAGER HOWARD, Johns Hopkins University School of Medicine, Baltimore, Md., and Dr. SAMUEL A. VEST, JR., University of Virginia Department of Medicine, Charlottesville, Va.: Administration of Synthetic Androgens by Pellet Implantation and Pellet Injection.

13. Dr. LATHAN A. CRANDALL, JR., and (Mr.) HARVEY K. MURER, University of Tennessee College of Medicine, Memphis, Tenn.: Radioactive Elements as "Tracers" for Metabolic Processes.

Space No.

14. Dr. E. GOLDFAIN, University of Oklahoma School of Medicine, Oklahoma City, Okla.: Gout.

15. Dr. H. McGUIRE DOLES, Norfolk, Va.: Hypertension and Iron Metabolism.

16. Dr. HENRY G. HADLEY, Washington, D. C.: (1) Abnormalities of the Spine and their Clinical Significance, and (2) The Tobacco Habit: Its Effect upon Longevity, Metabolism and Circulatory System.

Gastroenterology

17. Dr. DONOVAN C. BROWNE and Dr. GORDON McHARDY, Tulane University School of Medicine, New Orleans, La.: Diagnostic Gastroscopy.

18. Dr. EARL T. WHITE, Greenville, Miss.: Pathologic Specimens from Gastro-Intestinal Tract.

Pharmacology

19. (Mr.) RALPH C. SHANK and (Miss) HARRIET POND, University of Tennessee College of Medicine, Memphis, Tenn.: Determination of Minute Amounts of Mercury.

Dermatology

20. Dr. J. LAMAR CALLAWAY and Dr. NORMAN F. CONANT, Duke University School of Medicine, Durham, N. C.: Blastomycosis of the Skin.

21. Dr. JAMES K. HOWLES and (Mr.) WILLIAM BRANKS STEWART, Louisiana State University School of Medicine, New Orleans, La.: Dermatoses of the Negro.

(Unnumbered) Dr. HOWARD HAILEY and Dr. HUGH HAILEY, Emory University School of Medicine, Atlanta, Ga.: Diseases of the Skin: (1) Familial Chronic Benign Pemphigus, (2) Pruritus Ani et Vulvae (Eczema), and (3) Skin Cancer.

Allergy

22. Dr. W. AMBROSE McGEE, Richmond, Va.: The Indirect Method of Skin Testing in Allergy.

23. ASSOCIATION OF ALLERGISTS FOR MYCOLOGICAL INVESTIGATION: Air-Borne Spores—Their Distribution in Central United States, Seasonal Incidence, Methods of Collection, and Preparation Into Diagnostic and Therapeutic Extracts.

24. Dr. BEDFORD SHELMIRE, Baylor University College of Medicine, and (Mr.) H. L. GRAHAM, Highland Park High School, Dallas, Tex.: Contact Dermatitis from Weeds: Patch Testing with their Oleoresins.

25. Dr. FRENCH K. HANSEL, St. Louis, Mo.: Hay Fever: Botanical and Clinical Aspects.

Endocrinology

26. Dr. AUGUST A. WERNER, St. Louis University School of Medicine, St. Louis, Mo.: Sex Hormones: Clinical Studies.

27. Dr. DANIEL L. SEXTON, St. Louis University School of Medicine, St. Louis, Mo.: Hormone Treatment of Cryptorchidism and Hypogenitalism.

28. Dr. HENRY H. TURNER, University of Oklahoma School of Medicine, Oklahoma City, Okla.: Clinical Endocrinology.

Urology

30. Dr. PAUL G. GAMBLE, Greenville, Miss.: Diseases of the Kidney.

31. Dr. THOMAS D. MOORE and Dr. A. LYNN HERRING, Memphis, Tenn.: Transurethral Prostatectomy: Cases Requiring the Resection of More than Fifty Grams of Tissue.

Neurology

32. Dr. G. WILSE ROBINSON and Dr. G. WILSE ROBINSON, JR., Kansas City, Mo.: Delirium: Its Interpretation and Treatment.

33. Dr. KENDALL B. CORBIN and Dr. FRANK HARRISON, University of Tennessee College of Medicine, Memphis, Tenn.: The Use of the Horsley-Clarke Stereotaxic Instrument in Experimental Neuro-Anatomy.

Space No.

Neurological Surgery

34. Dr. NICHOLAS GOTTEN, University of Tennessee College of Medicine, Memphis, Tenn., and Dr. W. EDWARD CHAMBERLAIN, Temple University School of Medicine, Philadelphia, Pa.: Hydrodynamics of Cerebrospinal Fluid System.

35. Dr. R. EUSTACE SEMMES and Dr. FRANCIS MURPHEY, University of Tennessee College of Medicine, Memphis, Tenn.: Neurosurgical Relief of Low Back Pain and Sciatica.

Chemistry

36. Dr. WILLIAM B. WENDEL and Dr. WILLIAM W. COX, University of Tennessee College of Medicine, Memphis, Tenn.: Experimental Methemoglobinemia: Effect of Methylene Blue.

Radiology

37. Dr. EMMETT B. SETTLE, Rock Port, Mo.: Roentgen Treatment of Lobar Pneumonia.

38. Dr. W. EDWARD CHAMBERLAIN, Temple University School of Medicine, Philadelphia, Pa.: The Roentgenologist's Part in the Study of Low Back Pain.

Orthopedic Surgery

39. Dr. DEAN H. ECHOLS and (Mr.) FRED REHFELDT, Tulane University School of Medicine, New Orleans, La.: Sciatic Pain Caused by Diseased Intervertebral Disks.

40. Dr. LENOX D. BAKER, Dr. R. BEVERLY RANEY and Dr. ROBERT A. KNIGHT, Duke University School of Medicine, Durham, N. C.: Gross Pathology of Bone.

41. Dr. LOUIS W. BRECK and Dr. EUGENE W. SECORD, El Paso, Tex.: Blind Nailing of Fractures of the Neck of the Femur.

42. Dr. WILLIS C. CAMPBELL, Dr. J. S. SPEED, Dr. H. B. BOYD and Dr. HUGH SMITH, Memphis, Tenn.: Fresh and Ununited Fractures of the Neck of the Femur.

43. Dr. RICHEY L. WAUGH, U. S. Public Health Service, New Orleans, La.: Skeletal Traction and Counter Traction Methods Applicable to Ordinary Extension Splints Used in the Treatment of Fractures of the Lower Extremity.

44. Dr. CHARLES T. BERRY, Greenville, Miss.: Methods of Treatment of Fractures of the Extremities.

Surgery

45. Dr. WILLARD BARTLETT, JR., St. Louis University School of Medicine, and Dr. ROBERT W. BARTLETT, Washington University School of Medicine, St. Louis, Mo.: Original Studies in Goiter.

46. Dr. WOOLFOLK BARROW, Lexington, Ky.: Varicose Veins.

47. Dr. PENN RIDDLE, Baylor University College of Medicine, Dallas, Tex.: Injection Treatment (Sclerosing Therapy).

48. Dr. JOHN ROBERTS PHILLIPS, Houston, Tex.: Ulcers and Tumors of the Stomach and Duodenum.

49. Dr. CHARLES F. SHERWIN, St. Louis University School of Medicine, St. Louis, Mo.: General, Plastic and Tumor Surgery.

Thoracic Surgery

50. Dr. ALTON OCHSNER and Dr. MICHAEL DEBAKEY, Tulane University School of Medicine, New Orleans, La.: Carcinoma of the Lung.

51. Dr. DUANE CARR and Dr. HUGHES CHANDLER, Memphis, Tenn.: Thoracic Surgery.

Plastic Surgery

52. Dr. EARL C. PADGETT, University of Kansas School of Medicine, Kansas City, Kan.: Calibrated Deep Intermediate Skin Grafts.

53. Dr. GEORGE H. KIMBALL, Oklahoma City, Okla.: Plastic Surgery.

54. Dr. ELLERY C. GAY, University of Arkansas School of Medicine, Little Rock, Ark.: Plastic Surgery.

55. Dr. VILRAY P. BLAIR, Dr. J. BARRETT BROWN and Dr. LOUIS T. BYARS, Washington University School of Medicine, St. Louis, Mo.: Carcinoma about the Mouth: Operation, Repairs and Neck Dissections.

Space No.

56. Dr. NEAL OWENS and Dr. RICHARD W. VINCENT, Tulane University School of Medicine, New Orleans, La.: Plastic Surgery.

57. Dr. CURT VON WEDEL and Dr. STEPHEN S. ELLIS, Oklahoma City, Okla.: Plastic Surgery.

58. Dr. WM. MILTON ADAMS, University of Tennessee College of Medicine, Memphis, Tenn.: Plastic and Reconstructive Surgery.

59. Dr. R. RANDOLPH JONES, Duke University School of Medicine, Durham, N. C.: Management of Some Patients with Problems Requiring Plastic Correction.

Pathology

60. Dr. EUGENE R. WHITMORE, Georgetown University School of Medicine, Washington, D. C.: (1) Radiant Energy (Sunlight, Quartz Mercury Arc Radiations) and Lesions of the Skin, and (2) Chronic Cystic Mastitis and Carcinoma of the Breast.

61. Dr. RIGNEY D'AUNOY, Dr. BJARNE PEARSON and Dr. BELA HALPERT, Louisiana State University School of Medicine, New Orleans, La.: Carcinoma of the Lung: A Histogenetic Classification.

62. Dr. HARRY C. SCHMEISSER and Dr. JOSEPH L. SCIANNI, University of Tennessee College of Medicine, Memphis, Tenn.: Pathology of Unusual Benign and Malignant Tumors.

63. Dr. R. H. RIGDON, University of Tennessee College of Medicine, Memphis, Tenn.: Observations on Capillary Permeability and Inflammation. (Part of this work was carried out at Vanderbilt University School of Medicine, Nashville.)

Obstetrics and Gynecology

64. Dr. RICHARD TORPIN, University of Georgia School of Medicine, Augusta, Ga.: A Roentgen Pelvimeter Simplifying Thoms' Method.

65. Dr. ROBERT B. GREENBLATT and Dr. RICHARD TORPIN, University of Georgia School of Medicine, Augusta, Ga.: Hormonal Stimulation of the Human Ovary.

66. Dr. KARL JOHN KARNAKY, Houston, Tex.: (1) Gynecological and Obstetrical Endocrine Problems: Stilboestrol, and (2) Leukorrhea.

Neoplastic Diseases

67. AMERICAN SOCIETY FOR CONTROL OF CANCER, Missouri State Committee, St. Louis, Mo.: Fight Cancer with Knowledge.

68. Dr. FRED HAMES, Pine Bluff, Ark.: Moulages of Malignant and Other Lesions.

69. Dr. WM. F. LAKE and Dr. A. J. AYERS, Atlanta, Ga.: Genito-Urinary, Gastro-Intestinal, Thyroid and Ovarian Malignancies.

Otolaryngology

70. Dr. MILLARD F. ARBUCKLE and Dr. A. C. STUTSMAN, Washington University School of Medicine, St. Louis, Mo.: Diseases of the Chest and Esophagus.

71. Dr. JOHN J. SHEA, Memphis, Tenn.: Management of Fractures of the Bones of the Face.

Ophthalmology

72. Dr. K. W. COSGROVE, University of Arkansas School of Medicine, Little Rock, Ark.: Photography of the Eye.

73. Dr. J. WESLEY McKINNEY, University of Tennessee College of Medicine, Memphis, Tenn.: Transplantation of the Cornea.

Malaria

74. Dr. JUSTIN ANDREWS, Georgia Department of Public Health, Atlanta, Ga.: Malaria Investigation and Control in Georgia.

75. UNITED STATES PUBLIC HEALTH SERVICE, Office of Malaria Investigations, Memphis, Tenn.: Permanent Malaria Control Drainage.

76. ARKANSAS STATE BOARD OF HEALTH, Little Rock, Ark.: Malaria Investigations and Control in Arkansas.

77. TENNESSEE VALLEY AUTHORITY, Health and Safety Department, Chattanooga, Tenn.: Breaking the Chain of Malaria Transmission.

Space No.

(Unnumbered) CINCHONA PRODUCTS INSTITUTE, New York, N. Y.: World Map of Malaria.

(Unnumbered) OLIVER IRWIN, Southside High School, Memphis, Tenn.: Prize Poster on Malaria. (Courtesy Cinchona Products Institute.)

Cardiovascular Disease

78. Dr. JOHN G. ARCHER, Greenville, Miss.: Photo Electrocardiographs of Interesting Cardiac Disorders.

See also exhibits 8 and 9.

Tuberculosis

79. Dr. H. H. FELLOWS and Dr. W. H. ORDWAY, Metropolitan Life Insurance Company, New York, N. Y.: Pulmonary Tuberculosis: A Long Range Program for Control Among Personnel.

Public Health

80. VIRGINIA STATE DEPARTMENT OF HEALTH, Richmond, Va.: Public Health Activities in Virginia.

81. ALABAMA STATE DEPARTMENT OF PUBLIC HEALTH, Division of Maternal Hygiene, Montgomery, Ala.: Maternal Welfare Program.

82. MEMPHIS HEALTH DEPARTMENT, Memphis, Tenn.: Miniature Dairy Barn and Milk House.

83. MEMPHIS HEALTH DEPARTMENT, Memphis, Tenn.: Who Lives Where?

Syphilis

84. UNITED STATES PUBLIC HEALTH SERVICE, Division of Venereal Diseases, Washington, D. C.: Nonspecific Therapy in Dementia Paralytica.

85. UNITED STATES PUBLIC HEALTH SERVICE, Division of Venereal Diseases, Washington, D. C.: Three Counties Against Syphilis.

86. SHELBY COUNTY HEALTH DEPARTMENT, Memphis, Tenn.: Mobile Clinic (on plaza in front of Auditorium).

GENERAL CLINICAL SESSION

MEMPHIS DAY

Tuesday, November 21, 10:00 a. m.

A Clinical Session, MEDICINE—Section A, was held at the Municipal Auditorium, Room No. 1, Memphis, Dr. Clyde V. Croswell, Memphis, presiding.

The following presentations were made:

Pediatrics

Dr. Edward Clay Mitchell, Memphis: "Value of Vitamin C in Hemorrhagic Conditions in Children: Case Report" (Lantern Slides).

Dr. Harry J. Jacobson, Memphis: "Treatment of Scarlet Fever."

Dr. Walker L. Rucks, Memphis: "Treatment of Dysentery."

Dr. Joel J. Hobson, Memphis: "The Parenteral Use of Fluids in Pediatric Practice."

Dr. F. Thos. Mitchell, Memphis: "Experience with Sauer's Vaccine in Prevention of Whooping Cough."

Dr. David W. Goltman, Memphis: "Public Health Aspects of the Treatment of Congenital Syphilis in a Southern City."

Dr. W. D. Anderson and Dr. James E. Hughes, Memphis: "The Roentgenological Bone Manifestations in Certain Generalized Diseases of Infants and Children" (Lantern Slides).

Dr. Arthur G. Quinn, Memphis: "Newborn Infant" (Lantern Slides).

The Session then adjourned *sine die*.

GENERAL CLINICAL SESSION

MEMPHIS DAY

Tuesday, November 21, 2:00 p. m.

A Clinical Session, MEDICINE—Section A, was held at the Municipal Auditorium, Room No. 1, Memphis, Dr. Conley H. Sanford, Memphis, presiding.

The following presentations were made:

Symposium on Headache

Dr. James B. Stanford, Memphis: "Headaches of Ocular Origin."

Dr. Alfred M. Goltman, Memphis: "Allergic Headache."

Dr. S. S. Evans, Memphis: "Headaches Due to Sinus Disease."

Dr. Nicholas Gotten, Memphis: "Headaches Due to Intracranial Lesions" (Lantern Slides).

Dr. D. C. McCool, Memphis: "Headaches of Functional Origin."

Dr. William Calvert Chaney, Memphis: "More Recent Methods in the Treatment of Migraine."

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Dr. Gilbert J. Levy, Memphis: "Toxic Effects of Sulfanilamide" (Lantern Slides).

Dr. Richard E. Ching, Memphis: "Sulfapyridine in Pneumonia" (Lantern Slides).

Dr. William B. Wendel, Memphis: "Methemoglobinemia as a Complication of Chemotherapy" (Scientific Exhibit).

The Session then adjourned *sine die*.

GENERAL CLINICAL SESSION

MEMPHIS DAY

Tuesday, November 21, 2:00 p. m.

A Clinical Session, MEDICINE—Section B, was held at the First Methodist Church, Room No. 1, Memphis, Dr. Henry B. Gotten, Memphis, presiding.

The following presentations were made:

Dr. L. C. Sanders, Memphis: "Diverticulitis of the Colon" (Lantern Slides).

Dr. Guy Campbell, Memphis: "Infectious Mononucleosis."

Dr. William C. Colbert, Memphis: "History of Staphyloccoccus Infection."

Dr. Neuton S. Stern, Memphis: "Prognosis in Heart Disease."

Dr. Lathan A. Crandall, Memphis: "Vitamin B Deficiency and Functional Disturbances of the Digestive Tract" (Lantern Slides).

Dr. T. C. Moss, Memphis: "Laboratory Diagnosis of Undulant Fever."

Dr. Jacob Alperin, Memphis: "Why Do Diabetics Die?"

Dr. L. W. Diggs, Memphis: "The Blood Bank at John Gaston Hospital" (Lantern Slides).

Dr. Carrol C. Turner, Memphis: "Comments on Convulsive Therapy in the Neuroses and Psychoses" (Lantern Slides).

Dr. J. H. Adler, Memphis: "Bromide Intoxication."

Dr. W. K. Stratman-Thomas, Memphis: "Cooperative Malaria Research."

The Session then adjourned *sine die*.

GENERAL CLINICAL SESSION

MEMPHIS DAY

Tuesday, November 21, 10:00 a. m.

A Clinical Session, SURGERY—Section A, was held at the First Methodist Church, Room No. 3, Memphis, Dr. Ernest G. Kelly, Memphis, presiding.

The following presentations were made:

Cancer

Dr. J. C. Ayres, Sr., Memphis: "The Cancer Problem" (Lantern Slides).

Dr. Wm. Milton Adams, Memphis: "Reconstructive Surgery in the Cancer Patient" (Motion Pictures) (Scientific Exhibit).

Dr. Charles G. Andrews, Memphis: "Tumors in the Region of the Salivary Glands."

Dr. C. H. Heacock, Memphis: "Superior Pulmonary Sulcus Tumors" (Lantern Slides).

Dr. Shields Abernathy, Memphis: "Treatment of Cancer of the Breast."

Dr. T. M. Dunn and Dr. Harry C. Schmeisser, Memphis: "Adenoma and Carcinoma of the Adrenal Cortex" (Lantern Slides).

Dr. Charles W. Ingle, Memphis: "The Plan Used in the Treatment of Cancer of the Breast at the University of Tennessee Cancer Clinic."

The Session then adourned *sine die*.

GENERAL CLINICAL SESSION

MEMPHIS DAY

Tuesday, November 21, 2:00 p. m.

A Clinical Session, SURGERY—Section A, was held at the First Methodist Church, Room No. 3, Memphis, Dr. Sam L. Raines, Memphis, presiding.

The following presentations were made:

Orthopedics

Dr. Willis C. Campbell, Memphis: "Treatment of Nonunion in Fractures of the Neck of the Femur" (Lantern Slides) (Scientific Exhibit).

Dr. Harold B. Boyd, Memphis: "Treatment of Fresh Fractures of the Neck of the Femur" (Lantern Slides).

Dr. Edwin J. Lipscomb, Memphis: "Fracture of Upper End of Humerus Involving the Shoulder Joint."

Dr. Henry G. Hill, Memphis: "Operative Reconstruction of Residual Paralysis Following Poliomyelitis" (Motion Pictures).

Urology

Dr. J. Logan Morgan, Memphis: "Use of Sulfanilamide in Urology."

Dr. H. K. Turley, Memphis: "Pyelitis of Pregnancy and Its Results" (Lantern Slides).

Dr. Thomas D. Moore, Memphis: "The Management of Tumors of the Bladder" (Lantern Slides).

Dr. Russell A. Hennessey and Dr. Alfred D. Mason, Memphis: "Renal Tumors in Children" (Lantern Slides).

Dr. Charles S. Paddock, Memphis: "Clinical Manifestations of Prostatic Disease" (Lantern Slides).

Dr. George R. Livermore, Memphis: "Damage Resulting from Urinary Obstruction" (Lantern Slides).

The Session then adjourned *sine die*.

GENERAL CLINICAL SESSION

MEMPHIS DAY

Tuesday, November 21, 2:00 p. m.

A Clinical Session, GENERAL SURGERY, was held at the First Methodist Church, Room No. 2, Memphis, Dr. E. M. Holder, Memphis, presiding.

The following presentations were made:

Dr. Morton J. Tendler, Memphis: "Spinal Anesthesia: Report of Seven Thousand Cases" (Lantern Slides).

Dr. R. L. Sanders, Memphis: "Peptic Ulcer with Reference to Surgical Treatment" (Lantern Slides).

Dr. Giles A. Coors, Memphis: "Diverticulitis of the Colon" (Lantern Slides).

Dr. A. G. Mulder and Dr. H. A. Davis, Memphis: "Use of Dried Serum and Ascitic Fluid in Hemorrhagic Shock in Dogs" (Lantern Slides).

Dr. Harwell Wilson, Memphis: "Etiology and Treatment of Traumatic Surgical Shock" (Lantern Slides).

Dr. J. L. McGehee, Memphis: "Terminal Ileitis" (Lantern Slides).

Dr. R. Eustace Semmes, Memphis: "Intracranial Arteriovenous Aneurysms" (Lantern Slides).

Dr. Duane Carr and Dr. Hughes Chandler, Memphis: "Penetrating Wounds of the Chest Wall and Lungs" (Scientific Exhibit).

Dr. Edward D. Mitchell, Jr., Memphis: "The Surgeon and the Gastroscope" (Motion Pictures).

Dr. John L. Jelks, Memphis: "Causes of Rectal Bleeding."

Dr. J. W. Bodley, Memphis: "Hemorrhoids."

The Session then adjourned *sine die*.

GENERAL CLINICAL SESSION

MEMPHIS DAY

Tuesday, November 21, 2:00 p. m.

A Clinical Session, GYNECOLOGY and OBSTETRICS, was held at the First Methodist Church, Room No. 4, Memphis, Dr. Percy H. Wood, Memphis, presiding.

The following presentations were made:

Dr. Walter A. Ruch, Memphis: "The Postpartum Bladder."

Dr. Jas. M. Brockman, Memphis: "Induction of Labor."

Dr. Jerome P. Long, Memphis: "Craniotomy with a Review of Cases" (Lantern Slides).

Dr. Percy B. Russell, Jr., Memphis: "Sterilization After Delivery and Its Indications: Report of One Hundred Cases" (Lantern Slides).

Dr. William T. Black, Jr., Memphis: "Cobra Venom for the Relief of Pain" (Lantern Slides).

Dr. Phil C. Schreier, Memphis: "Conization of the Cervix" (Lantern Slides).

Dr. William Searight, Memphis: "Conservative Management of Pelvic Inflammatory Disease."

Dr. Carey G. Bringle, Memphis: "Retrodisplacements of the Uterus."

Dr. J. Cash King, Memphis: "Roentgen Therapy to the Pituitary Gland in Functional Disturbances of and Associated with Menstruation."

The Session then adjourned *sine die*.

GENERAL CLINICAL SESSION

MEMPHIS DAY

Tuesday, November 21, 2:00 p. m.

A Clinical Session, OPHTHALMOLOGY and OTOLARYNGOLOGY, was held at the Municipal Auditorium, Room No. 3, Memphis, Dr. W. Likely Simpson, Memphis, presiding.

The following presentations were made:

Ophthalmology

Dr. E. C. Ellett, Memphis: "Unilateral Exophthalmos with Case Reports."

Dr. James E. Wilson, Memphis: "Some Uses of Sulfanilamide in Ophthalmology."

Dr. J. Wesley McKinney, Memphis: "Corneal Transplantation" (Lantern Slides) (Scientific Exhibit).

Dr. Ralph O. Rychener, Memphis: "Surgery of the Lacrimal Sac" (Lantern Slides).

Dr. J. B. Stanford, Memphis: "Episcleritis and Interstitial Keratitis from Hypothyroidism" (Lantern Slides).

Otolaryngology

Dr. John J. Shea, Memphis: "Management of Fractures of the Bones of the Face" (Scientific Exhibit).

Dr. W. D. Stinson, Memphis: "The Effect of Thiamin Chloride on Cardiospasm."

Dr. Chas. D. Blassingame, Memphis: "Suspension Laryngoscopy."

Dr. J. Harley Harris, Memphis: "Overlooked Sinus Infection."

Dr. D. H. Anthony, Memphis: "The Use of Ingals' Gold Tube in Frontal Sinus Operation" (Lantern Slides).

The Session then adjourned *sine die*.

GENERAL CLINICAL SESSION

Wednesday, November 22, 9:00 a. m.

A General Clinical Session was held in the Municipal Auditorium, Room No. 1, Memphis, the President, Dr. Walter E. Vest, Huntington, West Virginia, presiding.

It was moved and carried without a dissenting vote that with the completion of the scientific program this General Clinical Session adjourn until the General Session at 8:00 p. m. in the Peabody Hotel Ballroom, the business to be transacted at this General Clinical Session to be carried over until the evening General Session.

The following presentations were made:

Dr. Edward J. Van Liere, Dean and Professor of Physiology, West Virginia University School of Medicine, Morgantown, West Virginia: "The Effect of Anoxemia on Some Bodily Functions" (Lantern Slides).

Dr. Tinsley R. Harrison, Associate Professor of Medicine, Vanderbilt University School of Medicine, Nashville, Tennessee: "Some General Principles in the Bedside Approach to Cardiac Problems."

Dr. Isaac A. Bigger, Professor of Surgery, Medical College of Virginia, Richmond, Virginia: "The Diagnosis and Treatment of Heart Wounds" (Lantern Slides).

Dr. Rock Sleyster, President, American Medical Association, Wauwatosa, Wisconsin: "What Price Depression."

Dr. Carroll M. Pounders, Associate Professor of Pediatrics, and Dr. F. M. King, Resident in Medicine and Pediatrics, University of Oklahoma School of Medicine, Oklahoma City, Oklahoma: "Pneumonia in Infants and Children" (Lantern Slides).

Dr. Paul H. Ringer, Vice-President, National Tuberculosis Association; Past President, Southern Tuberculosis Conference, Asheville, North Carolina: "The Present Status of the Tuberculosis Situation in the Southern States" (Lantern Slides).

The Session then adjourned until 8:00 p. m.

SECTION ON MEDICINE

Officers

Chairman—Dr. Virgil E. Simpson, Louisville, Kentucky.
Vice-Chairman—Dr. Hugh Jeter, Oklahoma City, Oklahoma.
Secretary—Dr. Henry G. Rudner, Memphis, Tennessee.

Thursday, November 23, 9:00 a. m.

The Section met in the Municipal Auditorium, Room No. 1, Memphis, Tennessee, and was called to order by the Chairman, Dr. Virgil E. Simpson, Louisville, Kentucky, who presided.

Paper by Dr. J. Edwin Wood, Jr., and Dr. Byrd S. Leavell, Charlottesville, Virginia, entitled "Clinical Course and Management of Acute Nephritis" (Lantern Slides), was read by Dr. Wood and was discussed by Dr. Edward S. Orgain, Durham, North Carolina; Dr. James S. McLester, Birmingham, Alabama; Dr. John W. Scott, Lexington, Kentucky; and in closing by Dr. Wood.

Dr. Pat A. Tuckwiller, Charleston, West Virginia, read a paper entitled "Common Errors in the Diagnosis and Treatment of Anemias," which was discussed by Dr. L. W. Diggs, Memphis, Tennessee.

Dr. Harry Beckman, Milwaukee, Wisconsin, read a paper entitled "Prophylaxis of Malaria" (Lantern Slides).

The Chairman appointed the following Nominating Committee: Dr. George R. Herrmann, Galveston, Texas; Dr. Alphonse McMahon, St. Louis, Missouri; and Dr. Charles H. Lutterloh, Hot Springs National Park, Arkansas.

Paper by Dr. Alphonse McMahon and Dr. Robert Nussbaum, St. Louis, Missouri, entitled "The Use and Abuse of Theophylline and Its Derivatives" (Lantern Slides), was read by Dr. McMahon and was discussed by Dr. George R. Herrmann, Galveston, Texas, and Dr. O. P. J. Falk, St. Louis, Missouri.

Paper by Dr. Hollis E. Johnson, Nashville, Tennessee, Dr. Walter S. Pyle, Franklin, Tennessee, and Dr. Harrison J. Shull, Shelbyville, Tennessee, entitled "The Non-Surgical Management of Lung Abscesses" (Lantern Slides), was read by Dr. Johnson and was discussed by Dr. Paul H. Ringer, Asheville, North Carolina; Dr. Clarence S. Thomas, Nashville, Tennessee; Dr. H. I. Spector, St. Louis, Missouri; Dr. Oscar O. Miller, Louisville, Kentucky; and in closing by Dr. Johnson.

Dr. Arthur A. Herold, Shreveport, Louisiana, read a paper entitled "Remarks on Modern Treatment of Diabetes Mellitus," which was discussed by Dr. William R. Minnich, Atlanta, Georgia; Dr. Seale Harris, Birmingham, Alabama; Dr. J. W. Mehaffey, Birmingham, Alabama; and in closing by the essayist.

The Section then adjourned until 9:00 a. m. Friday.

Friday, November 24, 9:00 a. m.

The Section met in the Municipal Auditorium, Room No. 1, Memphis, Tennessee, and was called to order by the Chairman, Dr. Simpson, who presided.

Dr. F. M. Acree, Greenville, Mississippi, read a paper entitled "Myasthenia Mitis," which was discussed by Dr. Samuel S. Riven, Nashville, Tennessee; Dr. Charles H. Lutterloh, Hot Springs National Park, Arkansas; and Dr. O. P. J. Falk, St. Louis, Missouri.

Dr. Hugh J. Morgan, Nashville, Tennessee, read a paper entitled "Certain Complications of Chronic Thyrotoxicosis" (Lantern Slides), which was discussed by Dr. W. de Guiterrez-Mahoney, Nashville, Tennessee; Dr. Neuton S. Stern, Memphis, Tennessee; and in closing by the essayist.

Dr. Virgil E. Simpson, Louisville, Kentucky, read his Chairman's Address entitled "The Dying Heart" (Lantern Slides).

Dr. Henry H. Turner, Oklahoma City, Oklahoma, read a paper entitled "Clinical Use of Male Sex Hormone: A Further Report" (Lantern Slides), which was discussed by Dr. Daniel L. Sexton, St. Louis, Missouri; Dr. William J. Norfleet, Shreveport, Louisiana; Dr. Neuton S. Stern, Memphis, Tennessee; Dr. Hugh J. Morgan, Nashville, Tennessee; and in closing by the essayist.

Dr. Walter G. Reddick, Dallas, Texas, read a paper entitled "The Treatment of Pneumococcal Pneumonia with Sulfapyridine," which was discussed by Dr. M. Pinson Neal, Columbia, Missouri; and in closing by the essayist.

Paper by Dr. C. J. Tripoli, New Orleans, Louisiana, and Dr. Lang F. Holland, Austin, Texas, entitled "Carcinoma of Lung: Analysis of One Hundred and Ninety-Five Cases, with Special Note on Needle Puncture Biopsy" (Lantern Slides), was read by Dr. Tripoli and was discussed by Dr. George J. Taquino, New Orleans, Louisiana; Dr. T. K. Lewis, Birmingham, Alabama; and in closing by Dr. Tripoli.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Henry G. Rudner, Memphis, Tennessee.
Vice-Chairman—Dr. W. G. Reddick, Dallas, Texas.
Secretary—Dr. Roy H. Turner, New Orleans, Louisiana.

The Section then adjorned *sine die*.

SECTION ON PEDIATRICS

Officers

Chairman—Dr. Hughes Kennedy, Jr., Birmingham, Alabama.
Vice-Chairman—Dr. Carroll M. Pounders, Oklahoma City, Oklahoma.
Secretary—Dr. Warren W. Quillian, Coral Gables, Florida.

Wednesday, November 22, 2:00 p. m.

The Section met in the Municipal Auditorium, Room No. 1, Memphis, Tennessee, and was called to order by the Chairman, Dr. Hughes Kennedy, Jr., Birmingham, Alabama, who presided.

The Chairman appointed a Memorial Committee to draft resolutions on the death of Dr. Oliver W. Hill, Knoxville, Tennessee, a former Chairman of the Section, consisting of Dr. Luther W. Holloway, Jacksonville, Florida; Dr. William Weston, Columbia, South Carolina; and Dr. D. Lesesne Smith, Spartanburg, South Carolina.

Paper by Dr. Thomas G. Folsom and Dr. George M. Lyon, Huntington, West Virginia, entitled "Epidemic Diarrhea of the Newborn" (Lantern Slides), was read by Dr. Folsom and was discussed by Dr. William W. Anderson, Atlanta, Georgia; Dr. Arthur J. Quinn, Memphis, Tennessee; and in closing by Dr. Folsom.

Dr. Hughes Kennedy, Jr., Birmingham, Alabama, read his Chairman's Address entitled "Over-Regimentation in Pediatrics" (Lantern Slides).

Dr. Fritz B. Talbot, Boston, Massachusetts, read a paper entitled "Present Status of the Endocrine Diseases of Childhood" (Lantern Slides).

Dr. Daniel L. Sexton, St. Louis, Missouri, read a paper entitled "Choice of Hormone Treatment in Male Subgenital Development" (Lantern Slides), which was discussed by Dr. Henry H. Turner, Oklahoma City, Oklahoma; Dr. Luther W. Holloway, Jacksonville, Florida; Dr. Fritz B. Talbot, Boston, Massachusetts; and in closing by the essayist.

Dr. Lee Bivings, Atlanta, Georgia, read a paper on "Routine Tuberculin Patch Testing of Infants and Small Children in Private Practice: Report of One Hundred Consecutive Cases" (Lantern Slides), which was discussed by Dr. W. P. Dearing, Montgomery, Alabama; Dr. Clyde V. Croswell, Memphis, Tennessee; and in closing by the essayist.

Dr. G. A. C. Jennings (D.D.S.), Richmond, Virginia, read a paper entitled "Co-Responsibility of Physician and Dentist" (Lantern Slides), which was discussed by Dr. Ambrose McGee, Richmond, Virginia.

The Section then adjourned until 2:00 p. m. Thursday.

Thursday, November 23, 2:00 p. m.

The Section met in the Municipal Auditorium, Room No. 1, Memphis, Tennessee, and was called to order by the Chairman, Dr. Kennedy, who presided.

The Chairman appointed the following Nominating Committee: Dr. Charles E. Conrad, Harrisonburg, Virginia; Dr. Edward Clay Mitchell, Memphis, Tennessee; and Dr. Hugh Leslie Moore, Dallas, Texas.

Paper by Dr. Preston A. McLendon and Dr. R. R. Rathbone, Washington, D. C., entitled "Chronic Sinus Infection in Chil-

dren: Results with X-Ray Therapy" (Lantern Slides), was read by Dr. McLendon, and was discussed by Dr. John J. Shea, Memphis, Tennessee; Dr. Edward Clay Mitchell, Memphis, Tennessee; Dr. H. G. McCormick, Laurel, Mississippi; and in closing by Dr. McLendon.

Paper by Dr. Hugh L. Dwyer and Dr. Frank C. Neff, Kansas City, Missouri, entitled "Anemia of the Newborn," was read by Dr. Dwyer and was discussed by Dr. Roy R. Kracke, Atlanta, Georgia; Dr. F. Thomas Mitchell, Memphis, Tennessee; and Dr. C H. Webb, Shreveport, Louisiana.

Dr. D. Lesesne Smith reported for the Memorial Committee, presenting resolutions in memory of Dr. Oliver W. Hill, which were adopted.

Dr. William Weston, Jr., Columbia, South Carolina, read a paper entitled "Acute Anterior Poliomyelitis Epidemic in South Carolina in 1939" (Lantern Slides), which was discussed by Dr. Kinsey M. Buck, Memphis, Tennessee; Dr. J. Adam Hayne, Columbia, South Carolina; and in closing by the essayist.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Harvey F. Garrison, Jackson, Mississippi.
Vice-Chairman—Dr. James W. Bruce, Louisville, Kentucky.
Secretary—Dr. Warren W. Quillian, Coral Gables, Florida.

Dr. Jasper S. Hunt, Charlotte, North Carolina, read a paper entitled "Private Pediatrist and His Patient" (Lantern Slides), which was discussed by Dr. D. Lesesne Smith, Spartanburg, South Carolina, and Dr. Gilbert J. Levy, Memphis, Tennessee.

Dr. Harvey F. Garrison, Jr., Jackson, Mississippi, read a paper entitled "The Modern Treatment of Bacillary Dysentery," which was discussed by Dr. Carroll M. Pounders, Oklahoma City, Oklahoma, and Dr. William D. Mims, Memphis, Tennessee.

Paper by Dr. Emile F. Naef and Dr. Richard P. Vieth, New Orleans, Louisiana, entitled "The Treatment of Congenital Syphilis," was read by Dr. Naef and was discussed by Dr. Walker L. Rucks, Memphis, Tennessee, and in closing by the essayist.

The Chairman expressed for the Section their appreciation to their hosts, the pediatrists of Memphis.

The Section then adjourned *sine die*.

SECTION ON GASTROENTEROLOGY

Officers

Chairman—Dr. Lay Martin, Baltimore, Maryland.
Vice-Chairman—Dr. Jerome S. Levy, Little Rock, Arkansas.
Secretary—Dr. Donovan C. Browne, New Orleans, Louisiana.

Wednesday, November 22, 2:00 p. m.

The Section met in the First Methodist Church, Room No. 4, Memphis, Tennessee, and was called to order by the Chairman, Dr. Lay Martin, Baltimore, Maryland, who presided.

The Chairman appointed the following Nominating Committee: Dr. Julian Ruffin, Durham, North Carolina; Dr. Cecil O. Patterson, Dallas, Texas; and Dr. Chas. Hartwell Cocke, Asheville, North Carolina.

Dr. F. Eugene Zemp, Columbia, South Carolina, read a paper entitled "Primary Jejunal Ulcer," which was discussed by Dr. George H. Bunch, Columbia, South Carolina; Dr. Cecil O. Patterson, Dallas, Texas; Dr. J. Shelton Horsley, Richmond, Virginia; and in closing by the essayist.

Dr. Lay Martin, Baltimore, Maryland, read his Chairman's Address entitled "Peptic Ulcer: A Resume of Observation and Study."

Dr. William F. Reinhoff, Jr., Baltimore, Maryland, read a paper entitled "Minimal Resection of the Stomach for the Treatment of Chronic Peptic Ulcer" (Motion Pictures), which was discussed by Dr. R. L. Sanders, Memphis, Tennessee; Dr. James B. McElroy, Memphis, Tennessee; Dr. Alton Ochsner, New Orleans, Louisiana; and in closing by the essayist.

Dr. Joseph W. Larimore, St. Louis, Missouri, read a paper entitled "The Irritable Colon."

Dr. Seale Harris, Birmingham, Alabama, read a paper entitled "The Genesis of Pellagra," which was discussed by Dr. Julian M. Ruffin, Durham, North Carolina; Dr. Tom D. Spies, Cincinnati, Ohio; Dr. Charles H. Lutterloh, Hot Springs National Park, Arkansas; and in closing by the essayist.

Dr. T. Neill Barnett, Richmond, Virginia, read a paper entitled "The Importance of Early Diagnosis and Treatment of Polyps of the Colon and Rectum," which was discussed by Dr. A. L. Levin, New Orleans, Louisiana; and Dr. John L. Jelks, Memphis, Tennessee.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Chauncey W. Dowden, Louisville, Kentucky.
Vice-Chairman—Dr. James L. Borland, Jacksonville, Florida.
Secretary—Dr. Donovan C. Browne, New Orleans, Louisiana.

The Section then adjourned *sine die*.

SECTION ON PATHOLOGY

Officers

Chairman—Dr. Elizabeth Bass, New Orleans, Louisiana.
Vice-Chairman—Dr. Roy R. Kracke, Emory University, Georgia.
Secretary—Dr. R. H. Rigdon, Memphis, Tennessee.

Thursday, November 23, 9:00 a. m.

The Section met in the Municipal Auditorium, Room No. 3, Memphis, Tennessee, and was called to order by the Chairman, Dr. Elizabeth Bass, who presided.

The Chairman appointed the following Nominating Committee: Dr. Ernest W. Goodpasture, Nashville, Tennessee; Dr. William H. Harris, New Orleans, Louisiana; and Dr. Oscar B. Hunter, Washington, D. C.

Paper by Dr. Iva Catherine Youmans and Dr. Laura M. Hobbs, Miami, Florida, entitled "The Role of Streptococcus in Some Dental Infections" (Lantern Slides), was read by Dr. Hobbs and was discussed by Dr. Marguerite T. Dean, Memphis, Tennessee; Dr. R. D. Baker, Durham, North Carolina; Dr. John R. Schenken, New Orleans, Louisiana; and in closing by Dr. Hobbs.

Paper by Dr. Alice C. Evans, Washington, D. C., entitled "A Comparison of Streptococcus Pyogenes and Streptococcus Epidemicus" (Lantern Slides), was read by Dr. R. E. Dyer, Washington, D. C., and was discussed by Dr. William H. Harris, New Orleans, Louisiana; Dr. George T. Caldwell, Dallas, Texas; and in closing by Dr. Dyer.

Dr. Florence Rena Sabin, Member Emeritus, Rockefeller Institute for Medical Research, Denver, Colorado, presented her subject entitled "Cellular Reactions to a Marked Antigen."

Dr. Edna H. Tompkins, Nashville, Tennessee, read a paper entitled "A Comparison Between the Reactions of the Large Phagocytic Mononuclear Cells to Subcutaneous Injections of Individual Lipides and to Mixtures of the Same" (Lantern Slides), which was discussed by Dr. M. Pinson Neal, Columbia, Missouri; Dr. Ernest W. Goodpasture, Nashville, Tennessee; Dr. Florence Rena Sabin, Denver, Colorado; and in closing by the essayist.

Dr. Elizabeth M. Ramsey, Washington, D. C., read a paper entitled "A Preliminary Report of Experimental Investigations Into the Etiology of Kaposi's Disease" (Lantern Slides), which was discussed by Dr. Harry C. Schmeisser, Memphis, Tennessee; Dr. John C. Henthorne, Jackson, Mississippi; Dr. Onis G. Hazel, Oklahoma City, Oklahoma; Dr. Wiley D. Forbus, Durham, North Carolina; Dr. Everett C. Fox, Dallas, Texas; and in closing by the essayist.

Dr. Margaret G. Smith, St. Louis, Missouri, read a paper entitled "Comparison of the Viruses of St. Louis Encephalitis and Japanese Encephalitis" (Lantern Slides), which was discussed by Dr. Ernest W. Goodpasture, Nashville, Tennessee, and in closing by the essayist.

The Section then adjourned until 9:00 a. m. Friday.

Friday, November 24, 9:00 a. m.

The Section met in the Municipal Auditorium, Room No. 3, Memphis, Tennessee, and was called to order by the Chairman, Dr. Bass, who presided.

Paper by Dr. William H. Harris and Miss Shirley Walthers, New Orleans, Louisiana, entitled "Local Protection or Immunity with Evidence of Experimental Application" (Lantern Slides), was read by Dr. Harris, and was discussed by Dr. George S. Graham, Birmingham, Alabama; Dr. I. D. Michelson, Memphis, Tennessee; Dr. Florence Rena Sabin, Denver, Colorado; Dr. Lathan A. Crandall, Memphis, Tennessee; Dr. R. H. Rigdon, Memphis, Tennessee; Dr. A. L. Joyner, New York, New York; and in closing by Dr. Harris.

Dr. Eugene R. Whitmore, Washington, D. C., read a paper entitled "The Biologic Action of Radiant Energy: (III) Sunlight, Quartz Mercury Arc Radiations, and Lesions of the Skin; and (IV) Sunlight, Quartz Mercury Arc Radiation, Light Sensitization, and Lesions of the Skin" (Lantern Slides), which was discussed by Dr. Wright Clarkson, Petersburg, Virginia; Dr. George T. Caldwell, Dallas, Texas; Dr. Frederick H. Dieterich, Miami Beach, Florida; and in closing by the essayist.

Dr. Francis P. Parker, Emory University, Georgia, read a paper entitled "Blood Potassium Studies in Allergic States: Relation to Potassium Therapy" (Lantern Slides), which was discussed by Dr. Roy R. Kracke, Emory University, Georgia; Dr. Lathan A. Crandall, Memphis, Tennessee; and in closing by the essayist.

SYMPOSIUM ON LEGAL MEDICINE

Dr. Roger D. Baker, Durham, North Carolina, presented the subject "The Medicolegal Autopsy."

Dr. George S. Graham, Birmingham, Alabama, presented the subject "Medicolegal Toxicology."

Dr. Ferdinand C. Helwig, Kansas City, Missouri, presented the subject "Medicolegal Status of Alcoholism" (Lantern Slides).

The Symposium was discussed by Dr. Owen S. Gibbs, Memphis, Tennessee; Dr. Wiley D. Forbus, Durham, North Carolina; Dr. J. A. McIntosh, Memphis, Tennessee; and in closing by Dr. Helwig.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Roy R. Kracke, Emory University, Georgia.
Vice-Chairman—Dr. A. J. Miller, Louisville, Kentucky.
Secretary—Dr. R. H. Rigdon, Memphis, Tennessee.

The Section then adjourned *sine die*.

SECTION ON NEUROLOGY AND PSYCHIATRY

Officers

Chairman—Dr. H. Dawson Allen, Jr., Milledgeville, Georgia.
Vice-Chairman—Dr. Spafford Ackerly, Louisville, Kentucky.
Secretary—Dr. Theodore A. Watters, New Orleans, Louisiana.

Wednesday, November 22, 2:00 p. m.

The Section met in the Municipal Auditorium, Room No. 3, Memphis, Tennessee, and was called to order by the Chairman, Dr. H. Dawson Allen, Jr., Milledgeville, Georgia, who presided.

Paper by Dr. Guy F. Witt and Dr. Tom H. Cheavens, Dallas, Texas, entitled "Significance of Macrocytosis in Nervous and Mental Patients," was read by Dr. Witt, and was discussed by Dr. Raymond S. Crispell, Durham, North Carolina; Dr. Lewis A. Golden, New Orleans, Louisiana; and in closing by Dr. Witt.

Dr. A. L. Skoog, Kansas City, Missouri, read a paper entitled "Cerebral Complications in Sickle Cell Anemia" (Motion Pictures), which was discussed by Dr. James G. Hughes, Memphis, Tennessee; Dr. Wiley D. Forbus, Durham, North Carolina; Dr. William L. Nelson, St. Louis, Missouri; and in closing by the essayist.

The Chairman announced that the out-of-territory essayist, Dr. Henry Alsop Riley, New York, New York, was unable to attend the Section and present his paper.

Dr. Rock Sleyster, President, American Medical Association, Wauwatosa, Wisconsin, was presented and made a few brief remarks.

Paper by Dr. J. R. S. Mays, Dr. John W. Oden and Dr. C. G. Cox, Milledgeville, Georgia, entitled "Malaria Therapy in Dementia Paralytica: A Statistical and Sociological Study of Three Hundred Cases Treated with Tertian or Quartan Malaria and Tryparsamide Over a Seven-Year Period," was read by Dr. Mays, and was discussed by Dr. S. B. McLendon, Columbia, South Carolina; Dr. Joseph R. Blalock, Marion, Virginia; Dr. Hermon S. Major, Kansas City, Missouri; Dr. C. S. Holbrook, New Orleans, Louisiana; Dr. Richard B. Wilson, Atlanta, Georgia; and in closing by Dr. Mays.

Dr. W. Walter Young, Atlanta, Georgia, read a paper entitled "The Question Mark, A Healthy State of Mind," which was discussed by Dr. Rock Sleyster, Wauwatosa, Wisconsin; Dr. Frank H. Luton, Nashville, Tennessee; Dr. Carrol C. Turner, Memphis, Tennessee; and in closing by the essayist.

Paper by Dr. Marion S. Love and Dr. David C. Wilson, Charlottesville, Virginia, entitled "The Relationship of Personality Changes to Facial Neuralgia" (Lantern Slides), was read by Dr. Wilson and was discussed by Dr. W. de Gutierrez-Mahoney, Nashville, Tennessee; Dr. Titus H. Harris, Galveston, Texas; and in closing by Dr. Wilson.

The Chairman appointed the following Nominating Committee: Dr Frank H. Redwood, Norfolk, Virginia; Dr. Frank H. Luton, Nashville, Tennessee; and Dr. Lawrence F. Woolley, Towson, Maryland.

The Section then adjourned until 2:00 p.m. Thursday.

Thursday, November 23, 2:00 p. m.

The Section met in the Municipal Auditorium, Room No. 4, Memphis, Tennessee, and was called to order by the Chairman, Dr. Allen, who presided.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Spafford Ackerly, Louisville, Kentucky.
Vice-Chairman—Dr. David C. Wilson, Charlottesville, Virginia.
Secretary—Dr. Theodore A. Watters, New Orleans, Louisiana.

Dr. W. D. Partlow, Tuscaloosa, Alabama, read a paper entitled "Problems of a State Mental Hospital," which was discussed by Dr. Ralph M. Fellows, Osawatomie, Kansas; Dr. Lawrence Kolb, Washington, D. C.; Dr. Walter E. Vest, Huntington, West Virginia; Dr. William L. Nelson, St. Louis, Missouri; Dr. Thomas H. Pargen, Jackson, Louisiana; Dr. Morris S. Wheeler, Rusk, Texas; and in closing by the essayist.

Dr. H. Dawson Allen, Milledgeville, Georgia, read his Chairman's Address entitled "The Mortality Rate in Psychotic Illness."

Dr. Edward F. Reaser, Huntington, West Virginia, read a paper entitled "Chorea of Infectious Origin," which was discussed by Dr. Charles S. Holbrook, New Orleans, Louisiana; Dr. A. L. Skoog, Kansas City, Missouri; Dr. Hermon S. Major, Kansas City, Missouri; Dr. Lewis A. Golden, New Orleans, Louisiana; Dr. J. R. S. Mays, Milledgeville, Georgia; and in closing by the essayist.

Dr. James A. Willie, Oklahoma City, Oklahoma, read a paper entitled "Some of the Uses of Vitamin B_1 in Neurology and Psychiatry," which was discussed by Dr. George B. Fletcher, Hot Springs National Park, Arkansas; Dr. William Keller, Louisville, Kentucky; Dr. Ned R. Smith, Tulsa, Oklahoma; Dr. W. de Gutierrez-Mahoney, Nashville, Tennessee; and in closing by the essayist.

Dr. Harry Wilkins, Oklahoma City, Oklahoma, read a paper entitled "Cerebellar Abscess: A Review of a Series of Cases" (Lantern Slides), which was discussed by Dr. Joseph E. J. King, New York, N. Y.; Dr. Nicholas Gotten, Memphis, Tennessee; Dr. Dean H. Echols, New Orleans, Louisiana; Dr. Hermon S. Major, Kansas City, Missouri; and in closing by the essayist.

Dr. James Greenwood, Jr., Houston, Texas, read a paper entitled "Follow-Up on Craniocerebral Injuries," which was discussed by Dr. H. Page Newbill, New Orleans, Louisiana; Dr. Richard Wilson, Atlanta, Georgia; and in closing by the essayist.

The Section then adjourned *sine die*.

SECTION ON RADIOLOGY

Officers

Chairman—Dr. Charles L. Martin, Dallas, Texas.
Vice-Chairman—Dr. Wendell G. Scott, St. Louis, Missouri.
Secretary—Dr. Ralph E. Myers, Oklahoma City, Oklahoma.

Thursday, November 23, 9:00 a. m.

The Section met in the Municipal Auditorium, Room No. 4, Memphis, Tennessee, and was called to order by the Chairman, Dr. Charles L. Martin, Dallas, Texas, who read his Chairman's Address entitled "Irradiation Therapy in Carcinoma of the Fundus of the Uterus" (Lantern Slides), which was discussed by Dr. Harold G. F. Edwards, Shreveport, Louisiana; and Dr. Axel N. Arneson, St. Louis, Missouri.

Paper by Dr. Axel N. Arneson and Dr. Harry Hauptman, St. Louis, Missouri, entitled "Radium Needles in the Treatment of Cervix Cancer" (Lantern Slides), was read by Dr. Hauptman.

Dr. Jacob Kotz, Washington, D. C., read a paper entitled "The Treatment of Functional Disorders of the Female by Radiation of the Pituitary Gland" (Lantern Slides).

Papers of Drs. Arneson and Hauptman and Dr. Kotz, were discussed by Dr. J. Cash King, Memphis, Tennessee; Dr. Harold G. F. Edwards, Shreveport, Louisiana; Dr. Franklin B. Bogart, Chattanooga, Tennessee; Dr. Edwin C. Ernst, St. Louis, Missouri; Dr. Charles L. Martin, Dallas, Texas; and in closing by the essayists.

Dr. W. Edward Chamberlain, Philadelphia, Pennsylvania, read a paper entitled "The Roentgenologist's Part in the Study of Low Back Pain" (Lantern Slides).

Dr. Paul C. Williams, Dallas, Texas, read a paper entitled "Lesions of the Lumbosacral Spine" (Lantern Slides).

Papers by Dr. Chamberlain and Dr. Williams were discussed by Dr. Wendell G. Scott, St. Louis, Missouri; Dr. Stephen W. Coley, Memphis, Tennessee; Dr. J. Shelton Horsley, Richmond, Virginia; and in closing by the essayists.

Dr. W. R. Brooksher, Fort Smith, Arkansas, read a paper entitled "Carcinoma of the Jejunum" (Lantern Slides), which was discussed by Dr. Edwin C. Ernst, St. Louis, Missouri; Dr. J. C. Dickinson, Tampa, Florida; Dr. J. Shelton Horsley, Richmond, Virginia; Dr. Vincent W. Archer, Charlottesville, Virginia; and in closing by the essayist.

The Chairman appointed the following Nominating Committee: Dr. Axel N. Arneson, St. Louis, Missouri; Dr. J. Cash King, Memphis, Tennessee; and Dr. W. R. Brooksher, Fort Smith, Arkansas.

The Section then adjourned until 9:00 a.m., Friday.

Friday, November 24, 9:00 a. m.

The Section met in the Municipal Auditorium, Room No. 4, Memphis, Tennessee, and was called to order by the Vice-Chairman, Dr. Scott, who presided.

Dr. William Neill, Baltimore, Maryland, read a paper entitled "Methods and Results in Treating Sundry Diseases of the Eye with Beta Rays of Radium" (Lantern Slides), which was discussed by Dr. Angus L. MacLean, Baltimore, Maryland; Dr. David Y. Keith, Louisville, Kentucky; Dr. J. N. Osburn, Los Angeles, California, and in closing by the essayist.

Dr. Henry B. Mulholland, Charlottesville, Virginia, read a paper entitled "Roentgenologic Aid in Acute Infections of the Lung and Their Sequelae" (Lantern Slides).

Dr. Robert J. Reeves, Durham, North Carolina, read a paper entitled "The Roentgen Significance of Bronchiomycosis" (Lantern Slides).

Dr. Brian B. Blades, St. Louis, Missouri, read a paper entitled "The Importance of X-Ray Interpretation in the Treatment of Pulmonary Suppuration" (Lantern Slides).

Papers by Dr. Mulholland, Dr. Reeves and Dr. Blades were discussed by Dr. Charles H. Heacock, Memphis, Tennessee; Dr. Ralph Bowen, Houston, Texas; Dr. Horace D. Gray, Memphis, Tennessee; Dr. Vincent W. Archer, Charlottesville, Virginia; Dr. Walter W. Robinson, Memphis, Tennessee; Dr. Walter S. Lawrence, Memphis, Tennessee; and in closing by the essayists.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Ralph E. Myers, Oklahoma City, Oklahoma.
Vice-Chairman—Dr. David Y. Keith, Louisville, Kentucky.
Secretary—Dr. W. R. Brooksher, Fort Smith, Arkansas.

Paper by Dr. Edwin A. Merritt and Dr. Ralph M. Caulk, Washington, D. C., entitled "Radiation Therapy as an Aid in the Diagnosis and Treatment of Certain Abdominal Tumors," was read by Dr. Caulk and was discussed by Dr. Elliott M. Hendricks, Fort Lauderdale, Florida; Dr. Walter S. Lawrence, Memphis, Tennessee; Dr. Harold G. F. Edwards, Shreveport, Louisiana; Dr. Wright Clarkson, Petersburg, Virginia; and in closing by Dr. Caulk.

Dr. Roy G. Giles, San Antonio, Texas, read a paper entitled "Radiation Therapy in Treatment of Metastatic Malignancy of the Chest" (Lantern Slides), which was discussed by Dr. W. R. Bethea, Jackson, Mississippi; Dr. D. A. Rhinehart, Little Rock, Arkansas; and in closing by the essayist.

The Section then adjourned *sine die*.

SECTION ON DERMATOLOGY AND SYPHILOLOGY

Officers

Chairman—Dr. J. Richard Allison, Columbia, South Carolina.
Vice-Chairman—Dr. A. H. Lancaster, Knoxville, Tennessee.
Secretary—Dr. Clinton W. Lane, St. Louis, Missouri.

Wednesday, November 22, 2:00 p. m.

The Section met in the First Methodist Church, Room No. 1, Memphis, Tennessee, and was called to order by the Chairman, Dr. J. Richard Allison, Columbia, South Carolina, who read his Chairman's Address entitled "Twenty Years' Experience with Skin Cancer."

Paper by Dr. Richard W. Fowlkes and Dr. Allen W. Pepple, Richmond, Virginia, entitled "Glomal Tumors (Glomangiomas or Angiomyoneuromas)" (Lantern Slides), was read by Dr. Fowlkes and was discussed by Dr. M. Toulmin Gaines, Mobile, Alabama; Dr. D. T. Gandy, Houston, Texas; and in closing by Dr. Fowlkes.

Paper by Dr. Onis George Hazel and Dr. Wayne M. Hull, Oklahoma City, Oklahoma, entitled "Dermatomyositis: Report of Two Cases in Children with a Fatal Termination" (Lantern Slides), was read by Dr. Hazel, and was discussed by Dr. Charles O. King, Birmingham, Alabama; Dr. L. C. Sanders, Memphis, Tennessee; Dr. Clinton W. Lane, St. Louis, Missouri; Dr. G. P. Lingenfelter, Denver, Colorado; and in closing by Dr. Hull.

Paper by Dr. Howard Hailey and Dr. Hugh Hailey, Atlanta, Georgia, entitled "Familial Benign Chronic Pemphigus: Report of Thirteen Cases in Four Generations" (Lantern Slides), was read by Dr. Howard Hailey, and was discussed by Dr. M. T. Van Studdiford, New Orleans, Louisiana; Dr. J. Richard Allison, Columbia, South Carolina; Dr. Everett R. Seale, Houston, Texas; Dr. M. Toulmin Gaines, Mobile, Alabama; Dr. Howard King, Nashville, Tennessee; Dr. A. B. Loveman, Louisville, Kentucky; and in closing by Dr. Howard Hailey.

Dr. John H. Lamb, Oklahoma City, Oklahoma, read a paper entitled "Reticuloendotheliosis: Report of Two Interesting Variants of the Disease," which was discussed by Dr. A. B. Loveman, Louisville, Kentucky; Dr. Elizabeth M. Ramsey, Washington, D. C.; and in closing by the essayist.

The Chairman appointed the following Nominating Committee: Dr. Richard W. Fowlkes, Richmond, Virginia; Dr. Alan D. Brown, Jacksonville, Florida; and Dr. Clement H. Marshall, Memphis, Tennessee.

Paper by Dr. J. Edward Hubbard and Dr. W. Beckett Martin, Huntington, West Virginia, entitled "Hypothyroidism as an Etiological Factor in Seasonal Dermatitis," was read by Dr. Martin, and was discussed by Dr. Chas. M. Hamilton, Nashville, Tennessee; Dr. Everett C. Fox, Dallas, Texas; Dr. Harry M. Robinson, Baltimore, Maryland; Dr. A. H. Lancaster, Knoxville, Tennessee; and in closing by Dr. Martin.

Paper by Dr. J. Lamar Callaway and Dr. Vince Moseley, Durham, North Carolina, entitled "Primary Cutaneous Gilchrist's Disease" (Lantern Slides), was read by Dr. Moseley, and was

discussed by Dr. Everett C. Fox, Dallas, Texas; Dr. M. T. Van Studdiford, New Orleans, Louisiana; Dr. Harry M. Robinson, Baltimore, Maryland; and in closing by Dr. Moseley.

The Section then adjourned until 2:00 p.m. Thursday.

Thursday, November 23, 2:00 p. m.

The Section met in the First Methodist Church, Room No. 1, Memphis, Tennessee, and was called to order by the Chairman, Dr. Allison, who presided.

Paper entitled "Studies of Serodiagnostic Tests for Syphilis as Performed in State Laboratories in 1938 and 1939: A Report of the Committee on Evaluation of Serodiagnostic Tests for Syphilis" (Lantern Slides), by Dr. Thomas Parran, Washington, D. C., Chairman; Dr. Henry H. Hazen, Washington, D. C.; Dr. John F. Mahoney, Washington, D. C.; Dr. Arthur H. Sanford, Rochester, Minnesota; Dr. Francis E. Senear, Chicago, Illinois; Dr. Walter M. Simpson, Dayton, Ohio; and Dr. R. A. Vonderlehr, Washington, D. C., was read by Dr. Hazen, and was discussed by Dr. Arthur G. Schoch, Dallas, Texas; Dr. R. A. Vonderlehr, Washington, D. C.; and in closing by Dr. Hazen.

Dr. Harry M. Robinson, Baltimore, Maryland, read a paper entitled "Analysis of Three Hundred and Nine Intracutaneous Skin Tests for Lymphopathia Venerea and Chancroid" (Lantern Slides), which was discussed by Dr. Robert B. Greenblatt, Augusta, Georgia; Dr. E. S. Sanderson, Augusta, Georgia; Dr. Hervey A. Foerster, Oklahoma City, Oklahoma; and in closing by the essayist.

Dr. Everett R. Seale, Houston, Texas, read a paper entitled "Sulfanilamide in Dermatology" (Lantern Slides), which was discussed by Dr. Emmett R. Hall, Memphis, Tennessee; Dr. Arthur G. Schoch, Dallas, Texas; and in closing by the essayist.

Paper by Dr. Adolph H. Conrad and Dr. Adolph H. Conrad, Jr., St. Louis, Missouri, Dr. Paul Mapother, Boston, Massachusetts, and Dr. Richard S. Weiss, St. Louis, Missouri, entitled "Lichen Planus Treated with Bismarsen" (Lantern Slides), was read by Dr. Conrad and was discussed by Dr. Thos. W. Murrell, Richmond, Virginia; Dr. Emmett R. Hall, Memphis, Tennessee; Dr. Harry M. Robinson, Baltimore, Maryland; and in closing by Dr. Conrad.

Dr. Barrett Kennedy, New Orleans, Louisiana, read a paper entitled "Common Vesicular Dermatoses of the Hands and Feet, Their Diagnosis and Treatment" (Lantern Slides), which was discussed by Dr. Clement H. Marshall, Memphis, Tennessee; Dr. Everett C. Fox, Dallas, Texas; Dr. C. F. Lehmann, San Antonio, Texas; and in closing by the essayist.

Dr. Karl O. Stingily, Meridian, Mississippi, read a paper entitled "A New Industrial Chemical Dermatitis" (Lantern Slides), which was discussed by Dr. Alan D. Brown, Jacksonville, Florida; Dr. M. Toulmin Gaines, Mobile, Alabama; and in closing by the essayist.

The Chairman appointed the following committee to draft resolutions on the death of Dr. J. Lee Kirby-Smith, Jacksonville, Florida: Dr. Howard King, Nashville, Tennessee, Dr. Elmo D. French, Miami, Florida, and Dr. C. A. Andrews, Tampa, Florida.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Howard Hailey, Atlanta, Georgia.
Vice-Chairman—Dr. A. B. Loveman, Louisville, Kentucky.
Secretary—Dr. John H. Lamb, Oklahoma City, Oklahoma.

The Section then adjourned *sine die*.

SECTION ON ALLERGY

Officers

Chairman—Dr. Charles H. Eyermann, St. Louis, Missouri.
Vice-Chairman—Dr. Homer E. Prince, Houston, Texas.
Secretary—Dr. E. Rankin Denny, Tulsa, Oklahoma.

Thursday, November 23, 2:00 p. m.

The Section met in the First Methodist Church, Room No. 2, Memphis, Tennessee, and was called to order by the Chairman, Dr. Charles H. Eyermann, St. Louis, Missouri, who presided.

Dr. Edna S. Pennington, Nashville, Tennessee, read a paper entitled "Air-Borne Molds as a Cause of Hay Fever and Asthma in the Mid-South" (Lantern Slides), which was discussed by Dr. Homer E. Prince, Houston, Texas; and in closing by the essayist.

Dr. O. C. E. Hansen-Pruss, Durham, North Carolina, read a paper entitled "The Importance of Psychogenic Factors in the Treatment of Allergic Disturbance," which was discussed by Dr. E. Rankin Denny, Tulsa, Oklahoma; Dr. D. C. McCool, Memphis, Tennessee; Dr. Hal M. Davison, Atlanta, Georgia; and in closing by the essayist.

Dr. Bedford Shelmire, Dallas, Texas, read a paper entitled "Contact Dermatitis from Vegetation: Patch Testing with Plant Oils," which was discussed by Dr. Everett C. Fox, Dallas, Texas; Dr. C. Malone Stroud, St. Louis, Missouri; Dr. B. G. Efron, New Orleans, Louisiana; Dr. Alan G. Cazort, Little Rock, Arkansas; Dr. Harry Huber, Chicago, Illinois; Dr. Ralph Bowen, Houston, Texas; and in closing by the essayist.

Dr. Walter B. Martin, Norfolk, Virginia, read a paper entitled "The Integration of Allergy and Internal Medicine," which was discussed by Dr. J. P. Henry, Memphis, Tennessee; and in closing by the essayist.

Dr. Mary H. Loveless, New York, New York, read a paper entitled "Immunity and Skin Response in Hay Fever Patients."

Dr. Edmund L. Keeney, Baltimore, Maryland, read a paper entitled "The Medical and Surgical Treatment of Severe Bronchial Asthma" (Lantern Slides), which was discussed by Dr. B. G. Efron, New Orleans, Louisiana; Dr. Harry Huber, Chicago, Illinois; and in closing by the essayist.

Paper by Dr. I. S. Kahn and Emma Grothaus (Technician), San Antonio, Texas, entitled "Chronic Urticaria (Based on the Successful Outcome of Seventeen out of Eighteen Cases)," was read by Dr. Kahn, and was discussed by Dr. Warren T. Vaughan, Richmond, Virginia.

Dr. Maurice L. Barnes, Waco, Texas, read a paper entitled "The Thyroid in Allergy" (Lantern Slides), which was discussed by Dr. James K. Fancher, Atlanta, Georgia; and Dr. Thomas E. Wilson, Jackson, Mississippi.

Dr. Charles H. Eyermann, St. Louis, Missouri, read his Chairman's Address entitled "Considerations in Evaluating the Therapy of Hay Fever."

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Homer E. Prince, Houston, Texas.
Vice-Chairman—Dr. Marion T. Davidson, Birmingham, Alabama.
Secretary—Dr. Clarence K. Weil, Montgomery, Alabama.

The Section then adjourned *sine die*.

SECTION ON SURGERY

Officers

Chairman—Dr. Robert M. Howard, Oklahoma City, Oklahoma.
Vice-Chairman—Dr. Hugh A. Gamble, Greenville, Mississippi.
Secretary—Dr. J. M. T. Finney, Jr., Baltimore, Maryland.

Wednesday, November 22, 2:00 p. m.

The Section met in the First Methodist Church, Room No. 3, Memphis, Tennessee, and was called to order by the Chairman, Dr. Robert M. Howard, Oklahoma City, Oklahoma, who presided.

Dr. J. O. Lisenby, Atmore, Alabama, read a paper entitled "Carbohydrate Metabolism in the Presence of Infection," which was discussed by Dr. Morton J. Tendler, Memphis, Tennessee; and Dr. C. H. Mosely, Monroe, Louisiana.

Dr. R. J. Wilkinson, Huntington, West Virginia, read a paper entitled "The Chronic Female Pelvis: Case Reports" (Lantern Slides), which was discussed by Dr. M. W. Searight, Memphis, Tennessee; Dr. Percy H. Wood, Memphis, Tennessee; Dr. James R. Bloss, Huntington, West Virginia; Dr. M. Casper, Louisville, Kentucky; and in closing by the essayist.

Dr. Cecil E. Newell, Chattanooga, Tennessee, read a paper entitled "The Prophylactic Use of Tetanus Antitoxin: An Analysis of Five Hundred Cases" (Lantern Slides), which was discussed

by Dr. William Battle Malone II, Memphis, Tennessee; Dr. Edward D. Mitchell, Jr., Memphis, Tennessee; and Dr. Glenn D. Batten, Jackson, Tennessee.

The Chairman announced with regret the absence of the Section Secretary, Dr. J. M. T. Finney, Jr., of Baltimore, Maryland, due to illness.

The Chairman appointed the following Nominating Committee: Dr. Morton J. Tendler, Memphis, Tennessee; Dr. Claude J. Hunt, Kansas City, Missouri; and Dr. R. J. White, Fort Worth, Texas.

Dr. Arnold D. Jackson, Madison, Wisconsin, read a paper entitled "Surgical Treatment of Diseases of the Biliary Tract" (Motion Pictures).

Dr. Barton McSwain, Paris, Tennessee, read a paper entitled "Intussusception of the Appendix: Review of the Literature and Report of a Case" (Lantern Slides), which was discussed by Dr. George Summers Johnson, Nashville, Tennessee; Dr. Hugh A. Gamble, Greenville, Mississippi; Dr. J. Murry Davis, Memphis, Tennessee; and in closing by the essayist.

Dr. Claude J. Hunt, Kansas City, Missouri, read a paper entitled "Surgical Treatment of High-Lying Malignant Lesions of the Stomach" (Lantern Slides), which was discussed by Dr. Robert L. Sanders, Memphis, Tennessee; and in closing by the essayist.

The Section adjourned until 2:00 p.m. Thursday.

Thursday, November 24, 2:00 p. m.

The Section met in the First Methodist Church, Room No. 3, Memphis, Tennessee, and was called to order by the Vice-Chairman, Dr. Hugh A. Gamble, who presided.

Dr. Robert M. Howard, Oklahoma City, Oklahoma, read his Chairman's Address entitled "Hyperparathyroidism: Report of a Case."

Dr. David Henry Poer, Atlanta, Georgia, read a paper entitled "Comparison of the Values of Dihydrotachysterol (A. T. 10), Parathormone and Vitamin D_2 in the Treatment of Post Thyroidectomy Hypocalcemia," which was discussed by Dr. James W. Bodley, Memphis, Tennessee; and in closing by the essayist.

Paper by Dr. Willard Bartlett, Jr., and Dr. Robert W. Bartlett, St. Louis, Missouri, entitled "Abandonment of Ligations Preliminary to Thyroidectomy" (Lantern Slides), was read by Dr. Willard Bartlett, Jr., and discussed by Dr. J. L. McGehee, Memphis, Tennessee; Dr. J. A. Crisler, Jr., Memphis, Tennessee; Dr. Robert M. Howard, Oklahoma City, Oklahoma; Dr. Louis W. Frank, Louisville, Kentucky; and in closing by Dr. Willard Bartlett, Jr.

Dr. Chalmers Hale Moore, Birmingham, Alabama, read a paper entitled "The Surgical Treatment of Craniocerebral Trauma," which was discussed by Dr. R. Eustace Semmes, Memphis, Tennessee; Dr. Nicholas Gotten, Memphis, Tennessee; and in closing by the essayist.

Chairman, Dr. Howard, took the Chair and presided.

Dr. Jere L. Crook, Jackson, Tennessee, a member of the Committee on Publicity on Appendiceal Disease from the Section on Surgery, reported to the Section for the Committee.

Paper by Dr. H. Dale Collins, Oklahoma City, Oklahoma, entitled "Indications for and Results of Splenectomy," was read by Dr. C. M. O'Leary, Oklahoma City, and was discussed by Dr. Giles A. Coors, Memphis, Tennessee.

Dr. A. C. Scott, Temple, Texas, read a paper entitled "Differential Diagnosis of Breast Tumors" (Lantern Slides), which was discussed by Dr. Frank W. Smythe, Memphis, Tennessee; Dr. Shields Abernathy, Memphis, Tennessee; and in closing by the essayist.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. J. M. T. Finney, Jr., Baltimore, Maryland.
Vice-Chairman—Dr. Claude J. Hunt, Kansas City, Missouri.
Secretary—Dr. J. A. Crisler, Jr., Memphis, Tennessee.

The Section then adjourned *sine die*.

SECTION ON BONE AND JOINT SURGERY

Officers

Chairman—Dr. Earl D. McBride, Oklahoma City, Oklahoma.
Vice-Chairman—Dr. J. Hiram Kite, Atlanta, Georgia.
Secretary—Dr. Guy W. Leadbetter, Washington, D. C.

Thursday, November 23, 9:00 a. m.

The Section met in the First Methodist Church, Room No. 2, Memphis, Tennessee, and was called to order by the Chairman, Dr. Earl D. McBride, Oklahoma City, Oklahoma, who presided.

Dr. F. Walter Carruthers, Little Rock, Arkansas, read a paper entitled "Synovectomies of the Knee Joint" (Motion Pictures), which was discussed by Dr. Willis C. Campbell, Memphis, Tennessee; Dr. Guy A. Caldwell, New Orleans, Louisiana; and Dr. R. W. Billington, Nashville, Tennessee.

Dr. Howard A. Swart, Charleston, West Virginia, read a paper entitled "An Analysis of the Treatment of Sixty-Eight Cases of Fracture of the Shafts of the Tibia and Fibula with the Roger-Anderson An-A-Tomic Splint" (Motion Pictures), which was discussed by Dr. Walter G. Stuck, San Antonio, Texas; Dr. Edmund M. Cowart, Houston, Texas; Dr. J. Albert Key, St. Louis, Missouri; Dr. W. K. West, Oklahoma City, Oklahoma; Dr. Guy A. Caldwell, New Orleans, Louisiana; and in closing by the essayist.

Dr. Ralph K. Ghormley, Rochester, Minnesota, read a paper entitled "The Study of Acute Infectious Lesions of the Intervertebral Disks" (Lantern Slides), which was discussed by Dr. J. Albert Key, St. Louis, Missouri; Dr. C. H. Moseiy, Monroe, Louisiana; Dr. R. W. Billington, Nashville, Tennessee; Dr. Frank L. Fort, Jacksonville, Florida; Dr. W. K. West, Oklahoma City, Oklahoma; and in closing by the essayist.

Paper by Dr. J. Albert Key and Dr. Thomas H. Burford, St. Louis, Missouri, entitled "Local Sulfanilamide in Compound Fractures: Effect on Infection and on Healing," was read by Dr. Key and was discussed by Dr. J. S. Speed, Memphis, Tennessee; Dr. C. H. Mosely, Monroe, Louisiana; Dr. Howard A. Swart, Charleston, West Virginia; Dr. Louis W. Breck, El Paso, Texas; Dr. D. H. O'Donoghue, Oklahoma City, Oklahoma; Dr. Edward M. Pruett, Jackson, Tennessee; and in closing by the essayist.

Dr. Jarrell Penn, Knoxville, Tennessee, read a paper entitled "Treatment of Fractures of the Neck of the Femur," which was discussed by Dr. Henry G. Hill, Memphis, Tennessee; Dr. F. Walter Carruthers, Little Rock, Arkansas; Dr. Harold B. Boyd, Memphis, Tennessee; Dr. S. I. Frankel, St. Louis, Missouri; Dr. Gordon King, Jacksonville, Florida; Dr. Austin T. Moore, Columbia, South Carolina; and in closing by the essayist.

Dr. E. Bennette Henson, Charleston, West Virgina, read a paper entitled "The Use of Oxygen in Joints in Preventing Adhesions from Trauma and Infections" (Motion Pictures), which was discussed by Dr. J. Albert Key, St. Louis, Missouri; Dr. Guy W. Leadbetter, Washington, D. C.; and in closing by the essayist.

Dr. Ben L. Schoolfield, Dallas, Texas, read a paper entitled "Injuries About the Carpometacarpal Joint of the Thumb" (Lantern Slides).

The Chairman appointed the following Nominating Committee: Dr. R. W. Billington, Nashville, Tennessee; Dr. Walter G. Stuck, San Antonio, Texas; and Dr. Frank A. Stuart, Tulsa, Oklahoma.

The Section adjourned until 9:00 a. m. Friday.

Friday, November 24, 9:00 a. m.

The Section met in the First Methodist Church, Room No. 2, Memphis, Tennessee, and was called to order by the Chairman, Dr. McBride, who presided.

Dr. D. H. O'Donoghue, Oklahoma City, Oklahoma, read a paper entitled "Controlled Rotation Ostectomy of the Tibia" (Motion Pictures), which was discussed by Dr. Austin T. Moore, Columbia, South Carolina; Dr. J. Hiram Kite, Atlanta, Georgia; Dr. Wade Sisler, Tulsa, Oklahoma; Dr. Herbert E. Hipps, Marlin, Texas; Dr. Paul C. Colonna, Oklahoma City, Oklahoma; and in closing by the essayist.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. J. Hiram Kite, Atlanta, Georgia.
Vice-Chairman—Dr. F. Walter Carruthers, Little Rock, Ark.
Secretary—Dr. Guy W. Leadbetter, Washington, D. C.

Paper by Dr. J. Warren White, Greenville, South Carolina, entitled "A Practical Graphic Method of Recording Leg Length Discrepancies" (Motion Pictures), was read by Dr. J. Hiram Kite, Atlanta, Georgia, in the absence of Dr. White, and was discussed by Dr. John D. Sherrill, Birmingham, Alabama; Dr. Earl D. McBride, Oklahoma City, Oklahoma; Dr. J. Albert Key, St. Louis, Missouri; Dr. F. Walter Carruthers, Little Rock, Arkansas; and in closing by Dr. Kite.

Dr. Earl D. McBride, Oklahoma City, Oklahoma, read his Chairman's Address entitled "Practical Problems on Physics in Orthopedic Surgery" (Lantern Slides).

Dr. C. E. Irwin, Warm Springs, Georgia, read a paper entitled "A Discussion of Pelvic Obliquity Resulting from Contracted Hip Abductors" (Lantern Slides), which was discussed by Dr. J. Hiram Kite, Atlanta, Georgia; Dr. Paul C. Colonna, Oklahoma City, Oklahoma; Dr. J. Albert Key, St. Louis, Missouri; Dr. Herbert E. Hipps, Marlin, Texas; Dr. Ralph K. Ghormley, Rochester, Minnesota; Dr. W. K. West, Oklahoma City, Oklahoma; Dr. J. S. Speed, Memphis, Tennessee; and in closing by the essayist.

Dr. Louis W. Breck, El Paso, Texas, read a paper entitled "Report of a Case of Severe Parathyroid Osteosis with Successful Removal of a Large Parathyroid Tumor" (Lantern Slides), which was discussed by Dr. Ralph K. Ghormley, Rochester, Minnesota; Dr. Paul C. Colonna, Oklahoma City, Oklahoma; Dr. Frank L. Fort, Jacksonville, Florida; Dr. W. K. West, Oklahoma City, Oklahoma; Dr. Frederick A. Jostes, St. Louis, Missouri; Dr. Guy W. Leadbetter, Washington D. C.; and in closing by the essayist.

Dr. Thomas Wheeldon, Richmond, Virginia, read a paper entitled "The Role of Hamstrings in Posture" (Lantern Slides), which was discussed by Dr. C. E. Irwin, Warm Springs, Georgia; Dr. Ben L. Schoolfield, Dallas, Texas; Dr. Louis W. Breck, El Paso, Texas; Dr. Guy W. Leadbetter, Washingon, D. C.; Dr. D. H. O'Donoghue, Oklahoma City, Oklahoma; Dr. J. Albert Key, St. Louis, Missouri; and in closing by the essayist.

The Section then adjourned *sine die*.

SECTION ON GYNECOLOGY

Officers

Chairman—Dr. E. W. Bertner, Houston, Texas.
Vice-Chairman—Dr. John F. Lucas, Greenwood, Mississippi.
Secretary—Dr. W. O. Johnson, Louisville, Kentucky.

Wednesday, November 22, 9:00 a. m.

The Section met in the First Methodist Church, Room No. 1, Memphis, Tennessee, and was called to order by the Chairman, Dr. E. W. Bertner, Houston, Texas, who read his Chairman's Address entitled "Functional and Pathologic Changes in the Endometrium."

Dr. Laman A. Gray, Louisville, Kentucky, read a paper entitled "The Effect of Pregnant Mare's Serum Hormone on the Abnormal Ovary: Report of Cases" (Lantern Slides), which was discussed by Dr. Quitman U. Newell, St. Louis, Missouri; and in closing by the essayist.

The Chairman appointed the following Nominating Committee: Dr. R. A. Ross, Durham, North Carolina; Dr. John T. Sanders, New Orleans, Louisiana; and Dr. Robert A. Johnston, Houston, Texas.

Paper by Dr. Wendell Long, Dr. T. J. Hardman, and Dr. Warren B. Poole, Oklahoma City, Oklahoma, entitled "Review of One Thousand Consecutive Hysterectomies at St. Anthony's Hospital" (Lantern Slides), was read by Dr. Long, and was discussed by Dr. John T. Sanders, New Orleans, Louisiana; Dr. John W. Turner, Atlanta, Georgia; Dr. L. Wallace Frank, Louisville, Kentucky; Dr. Karl John Karnaky, Houston, Texas; and in closing by Dr. Long.

Dr. Charles Edwin Galloway, Evanston, Illinois, read a paper entitled "An Evaluation of Glycogen-Free Epithelium of the Cervix and Vagina" (Lantern Slides).

Dr. Buford Word, Birmingham, Alabama, read a paper entitled "Resume of Congenital Absence of the Vagina and Uterus: Report of Three Cases" (Lantern Slides), which was discussed by Dr. Lawrence R. Wharton, Baltimore, Maryland; Dr. Beverly Douglas, Nashville, Tennessee; Dr. Gilbert A. Douglas, Birmingham, Alabama; Dr. Quitman U. Newell, St. Louis, Missouri; and in closing by the essayist.

Paper by Dr. Robert A. Johnston and Dr. George F. Adam, Houston, Texas, entitled "Tumors Complicating Pregnancy," was read by Dr. Johnston, and was discussed by Dr. W. T. Pride, Memphis, Tennessee; Dr. Martin C. Hawkins, Searcy, Arkansas; Dr. Charles Edwin Galloway, Evanston, Illinois; Dr. W. T. McConnell, Louisville, Kentucky; Dr. E. C. Hamblen, Durham, North Carolina; and in closing by Dr. Johnston.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. John F. Lucas, Greenwood, Mississippi.
Vice-Chairman—Dr. E. C. Hamblen, Durham, North Carolina.
Secretary—Dr. W. O. Johnson, Louisville, Kentucky.

The Section then adjourned unil 9:00 a.m. Friday for a joint session with the Section on Obstetrics (see minutes of Section on Obstetrics).

SECTION ON OBSTETRICS

Officers

Chairman—Dr. Milton Smith Lewis, Nashville, Tennessee.
Vice-Chairman—Dr. Robert M. Anderson, Shawnee, Oklahoma.
Secretary—Dr. Joseph W. Reddoch, New Orleans, Louisiana.

Thursday, November 23, 9:00 a. m.

The Section met in the First Methodist Church, Room No. 1, Memphis, Tennessee, and was called to order by the Chairman, Dr. Milton Smith Lewis, Nashville, Tennessee, who read his Chairman's Address entitled "The Remote Effects of Toxemia of Pregnancy" (Lantern Slides).

Dr. Samuel Allison Cosgrove, Jersey City, New Jersey, read a paper entitled "Management of Prolonged Labor" (Lantern Slides).

The Chairman appointed the following Nominating Committee: Dr. Warren E. Massey, Dallas, Texas; Dr. W. T. Pride, Memphis, Tennessee; and Dr. Louis H. Douglass, Baltimore, Maryland.

Dr. Robert A. Ross, Durham, North Carolina, read a paper entitled "Cholesterol Studies in the Late Toxemias of Pregnancy" (Lantern Slides), which was discussed by Dr. William T. McConnell, Louisville, Kentucky; Dr. James R. Reinberger, Memphis, Tennessee; and in closing by the essayist.

Dr. Louis H. Douglass, Baltimore, Maryland, read a paper entitled "A Study of Two Hundred and One Maternal Deaths" (Lantern Slides), which was discussed by Dr. Edward L. King, New Orleans, Louisiana; Dr Williamson Z. Bradford, Charlotte, North Carolina; Dr. John W. Turner, Atlanta, Georgia; Dr. Robert E. Seibels, Columbia, South Carolina; Dr. James R. Reinberger, Memphis, Tennessee; and in closing by the essayist.

Dr. J. E. Kanatser, Wichita Falls, Texas, read a paper entitled "Indications and Contraindications for Cesarean Section," which was discussed by Dr. Roy L. Grogan, Fort Worth, Texas; Dr. W. T. Pride, Memphis, Tennessee; Dr. Samuel Allison Cosgrove, Jersey City, New Jersey; Dr. Gilbert A. Douglas, Birmingham, Alabama; Dr. Robert A. Johnston, Houston, Texas; and in closing by the essayist.

Dr. A. P. Hudgins, Charleston, West Virginia, read a paper entitled "Treatment of Leukorrhea During Pregnancy," which was discussed by Dr. William Bush Anderson, Nashville, Tennessee; Dr. Karl John Karnaky, Houston, Texas; and in closing by the essayist.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Robert M. Anderson, Shawnee, Oklahoma.
Vice-Chairman—Dr. Joseph W. Reddoch, New Orleans, Louisiana.
Secretary—Dr. R. A. White, Asheville, North Carolina.

The Section then adjourned until 9:00 a.m. Friday for a joint session with the Section on Gynecology.

Friday, November 24, 9:00 a. m.

Joint Session, Section on Gynecology and Section on Obstetrics.

The Sections, in joint session, met in the First Methodist Church, Room No. 1, Memphis, Tennessee.

Paper by Dr. Richard Torpin and Dr. William W. Coppedge, Augusta, Georgia, entitled "Eclampsia: Review of Three Hundred and Fifty Cases Stressing Therapy" (Lantern Slides), was read by Dr. Torpin, and was discussed by Dr. Earl Conway Smith, New Orleans, Louisiana; and Dr. Cecil E. Warde, Memphis, Tennessee.

SECTION CLINIC

Section Clinic, Obstetrical Cases, conducted and discussed by Dr. Samuel Allison Cosgrove, Jersey City, New Jersey:

(a) "Gas Bacillus Infection Complicating Parturition." Case furnished and reported by Dr. Michael J. Roach, Jr., Memphis, Tennessee.

(b) "Bilateral Phrenicectomy for Intractable Hiccough Complicating Pregnancy." Case furnished and reported by Dr. James M. Brockman, Memphis, Tennessee.

(c) "Repeated Rupture of Uterus Complicating Pregnancy." Case furnished and reported by Dr. Carmen E. James, Memphis, Tennessee.

Cases were also discussed by Dr. Charles Edwin Galloway, Evanston, Illinois.

SYMPOSIUM ON STERILITY

(a) "From the Viewpoint of the Gynecologist" (Lantern Slides), by Dr. Hilliard E. Miller and Dr. Conrad G. Collins, New Orleans, Louisiana, read by Dr. Collins.

(b) "From the Viewpoint of the Urologist" (Lantern Slides), by Dr. Edgar Burns, New Orleans, Louisiana.

(c) "From the Viewpoint of the Endocrinologist," by Dr. E. Perry Thomas, New Orleans, Louisiana.

Symposium was discussed by Dr. John W. Turner, Atlanta, Georgia; Dr. Robert E. Seibels, Columbia, South Carolina; Dr. E. C. Hamblen, Durham, North Carolina; Dr. Charles Edwin Galloway, Evanston, Illinois; Dr. Robert B. Greenblatt, Augusta, Georgia; Dr. M. Y. Dabney, Birmingham, Alabama; and in closing by Dr. Collins and Dr. Thomas.

The Joint Session then adjourned *sine die*.

SECTION ON UROLOGY

Officers

Chairman—Dr. William M. Coppridge, Durham, North Carolina.
Vice-Chairman—Dr. Henry S. Browne, Tulsa, Oklahoma.
Secretary—Dr. Grayson Carroll, St. Louis, Missouri.

Thursday, November 23, 9:00 a. m.

The Section met in the First Methodist Church, Room No. 3, Memphis, Tennessee, and was called to order by the Chairman, Dr. William M. Coppridge, Durham, North Carolina, who presided.

Paper by Dr. James Lee Pittman and Dr. Earl Floyd, Atlanta, Georgia, entitled "Kidney Salvage" (Lantern Slides), was read by Dr. Pittman, and was discussed by Dr. George R. Livermore, Memphis, Tennessee.

SYMPOSIUM ON URINARY CALCULUS

Dr. Alexander Randall, Philadelphia, Pennsylvania, read a paper entitled "The Etiology of Primary Renal Calculus" (Lantern Slides).

Dr. William M. Coppridge, Durham, North Carolina, read his Chairman's Address entitled "The Clinical Management of Ureteral Stones" (Lantern Slides).

Paper by Dr. Alfred I. Folsom and Dr. Harold A. O'Brien, Dallas, Texas, entitled "The Problem of Bilateral Renal Calculi," was read by Dr. Folsom.

Dr. Hjalmar E. Carlson, Kansas City, Missouri, read a paper entitled "Stones of Recumbency" (Lantern Slides).

The Symposium was discussed by Dr. Linwood D. Keyser, Roanoke, Virginia; Dr. Thomas D. Moore, Memphis, Tennessee; Dr. Jefferson C. Pennington, Nashville, Tennessee; Dr. Henry J. Lindner, New Orleans, Louisiana; Dr. Jarratt P. Robertson, Birmingham, Alabama; and in closing by Dr. Randall, Dr. Folsom and Dr. Carlson.

Paper by Dr. Louis Kappel, Dr. Lloyd Jones and Dr. Grayson Carroll, St. Louis, Missouri, entitled "Sulfamethylthiazol: A Report of Its First Clinical Use in Staphylococcus Septicemia with Apparent Success: Animal Experimental Results Reported," was read by Dr. Kappel, and was discussed by Dr. Carroll.

The Section then adjourned until 9:00 a.m. Friday.

Friday, November 24, 9:00 a. m.

The Section met in the First Methodist Church, Room No. 3, Memphis, Tennessee, and was called to order by the Chairman, Dr. Coppridge, who presided.

Paper by Dr. Wilmer L. Grantham and Dr. R. Carl Bunts, Asheville, North Carolina, entitled "Congenital Bladder Neck Obstructions, Special Reference to Treatments: Report of Cases," was read by Dr. Grantham, and was discussed by Dr. Russell A. Hennessey, Memphis, Tennessee; and Dr. Owsley Grant, Louisville, Kentucky.

The Chairman appointed the following Nominating Committee: Dr. Jefferson C. Pennington, Nashville, Tennessee; Dr. Robert W. McKay, Charlotte, North Carolina; and Dr. James L. Estes, Tampa, Florida.

Dr. Ray M. Bobbitt, Huntington, West Virginia, read a paper entitled "Differential Diagnosis in Certain Types of Renal Tumors" (Lantern Slides), which was discussed by Dr. B. Weems Turner, Houston, Texas; Dr. Rex E. Van Duzen, Dallas, Texas; and Dr. R. G. Duncan, Memphis, Tennessee.

SYMPOSIUM ON UROLOGY IN CHILDREN

Dr. Robert W. McKay, Charlotte, North Carolina, read a paper entitled "Vesicle Neck Obstruction in Children."

Dr. Joseph E. Glenn, St. Louis, Missouri, read a paper entitled "Results of Untreated Urological Conditions in Children" (Lantern Slides).

The Symposium was discussed by Dr. Chapman S. Moorman, Louisville, Kentucky; Dr. Austin I. Dodson, Richmond, Virginia; Dr. Hubert K. Turley, Memphis, Tennessee; Dr. B. Weems Turner, Houston, Texas; Dr. Alfred I. Folsom, Dallas, Texas; and Dr. May Agnes Hopkins, Dallas, Texas.

Dr. Henry J. Lindner, New Orleans, Louisiana, read a paper entitled "Pyuria: Its Significance in Upper Urinary Tract Disease" (Lantern Slides), which was discussed by Dr. Jarrett P. Robertson, Birmingham, Alabama; and Dr. Grady W. Reagan, Little Rock, Arkansas.

The Nominating Committee reported the following nominations for Section Officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Rex E. Van Duzen, Dallas, Texas.
Vice-Chairman—Dr. Hubert K. Turley, Memphis, Tennessee.
Secretary—Dr. Grayson Carroll, St. Louis, Missouri.

The Section then adjourned *sine die*.

SECTION ON PROCTOLOGY

Officers

Chairman—Dr. Curtice Rosser, Dallas, Texas.
Vice-Chairman—Dr. John L. Jelks, Memphis, Tennessee.
Secretary—Dr. Frederick B. Campbell, Kansas City, Missouri.

Wednesday, November 22, 6:00 p. m.

Informal Section Dinner at Peabody Hotel

Thursday, November 23, 2:00 p. m.

The Section met in the Municipal Auditorium, Room No. 3, Memphis, Tennessee, and was called to order by the Chairman, Dr. Curtice Rosser, Dallas, Texas, who presided.

The Chairman appointed the following Nominating Committee: Dr. Marion C. Pruitt, Atlanta, Georgia; Dr. G. D. Stough, Hot Springs National Park, Arkansas; and Dr. George H. Thiele, Kansas City, Missouri.

Dr. Warren R. Rainey, St. Louis, Missouri, read a paper entitled "The Management of Hemorrhoids," which was discussed by Dr. Hoyt R. Allen, Little Rock, Arkansas; Dr. Herbert T. Hayes, Houston, Texas; Dr. Cecil D. Gaston, Birmingham, Alabama; and in closing by the essayist.

Dr. Wm. J. Martin, Jr., Louisville, Kentucky, read a paper entitled "Polypoid vs. Carcinomatous Lesions of the Colon and Rectum," which was discussed by Dr. George H. Thiele, Kansas City, Missouri; Dr. Victor C. Tucker, San Antonio, Texas; Dr. Raymond L. Murdoch, Oklahoma City, Oklahoma; Dr. Clement L. Martin, Chicago, Illinois; Dr. H. S. Hummell, Little Rock, Arkansas; and in closing by the essayist.

Dr. Curtice Rosser, Dallas, Texas, read his Chairman's Address entitled "The Surgical Management of Diverticulitis."

Dr. Walter A. Fansler, Minneapolis, Minnesota, read a paper entitled "Perirectal Abscess," which was discussed by Dr. John L. Jelks, Memphis, Tennessee; Dr. Emmett H. Terrell, Richmond, Virginia; and in closing by the essayist.

Dr. Tom E. Smith, Dallas, Texas, read a paper entitled "The Grading of Rectal Cancer," which was discussed by Dr. T. C. Moss, Memphis, Tennessee; Dr. Warren H. Hebert, New Orleans, Louisiana; Dr. Marion C. Pruitt, Atlanta, Georgia; Dr. Mark M. Marks, Kansas City, Missouri; Dr. Curtice Rosser, Dallas, Texas; and in closing by the essayist.

Dr. James H. Dodson, Mobile, Alabama, exhibited and explained an electrically lighted anoscope.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Emmett H. Terrell, Richmond, Virginia.
Vice-Chairman—Dr. Granville S. Hanes, Louisville, Kentucky.
Secretary—Dr. Frederick B. Campbell, Kansas City, Missouri.

The Section then adjourned *sine die*.

SECTION ON RAILWAY SURGERY

Officers

Chairman—Dr. James W. Davis, Statesville, North Carolina.
Secretary—Dr. Edgar F. Fincher, Atlanta, Georgia.

Wednesday, November 22, 9:00 a. m.

The Section met in the First Methodist Church, Room No. 3, Memphis, Tennessee, and was called to order by the Chairman, Dr. James W. Davis, Statesville, North Carolina, who read his Chairman's Address entitled "The Maintenance of Health Among Railway Employees."

The Chairman appointed the following Nominating Committee: Dr. H. M. Michel, Augusta, Georgia; Dr. Glenn I. Jones, Washington, D. C.; and Dr. W. J. Lancaster, Wilmington, North Carolina.

Paper by Dr. Lawson Thornton and Dr. Calvin Sandison, Atlanta, Georgia, entitled "Disabling Low Back Pain: A Problem in Private Life and in Industry," was read by Dr. Sandison, and was discussed by Dr. Willis C. Campbell, Memphis, Tennessee; Dr. R. Glen Spurling, Louisville, Kentucky; Dr. R. Eustace Semmes, Memphis, Tennessee; and Dr. Ralph K. Ghormley, Rochester, Minnesota.

Dr. Glenn I. Jones, Washington, D. C., read a paper entitled "The Incidence of Foci Infection in Relation to Cardiovascular Disease and Disorder Among Railroad Employees," which was discussed by Dr. J. R. Garner, Atlanta, Georgia; Dr. R. Lyle Motley, Memphis, Tennessee; and in closing by the essayist.

Paper by Dr. Gordon B. New, Rochester, Minnesota, entitled "The Immediate and Late Treatment of Injuries to the Face" (Lantern Slides and Motion Pictures), was read by his associate, Dr. John B. Erich, and was discussed by Dr. William G. Hamm, Atlanta, Georgia, and Dr. Neal Owens, New Orleans, Louisiana.

Dr. J. J. Brandabur, Huntington, West Virginia, read a paper entitled "An Analysis of Periodic Physical Examination for Five Years" (Lantern Slides), which was discussed by Dr. W. J. Lancaster, Wilmington, North Carolina; Dr. George A. Traylor, Augusta, Georgia; and in closing by the essayist.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Edgar F. Fincher, Atlanta, Georgia.
Secretary—Dr. J. J. Brandabur, Huntington, West Virginia.

The Section then adjourned *sine die*.

SECTION ON OPHTHALMOLOGY AND OTOLARYNGOLOGY

Officers

Chairman—Dr. Lawrence T. Post, St. Louis, Missouri.
Chairman-Elect—Dr. Harvey B. Searcy, Tuscaloosa, Alabama.
Vice-Chairman—Dr. C. C. Cody, Houston, Texas.
Secretary—Dr. L. Chester McHenry, Oklahoma City, Oklahoma.

Wednesday, November 22, 9:00 a. m.

ELLETT DAY

The Section met in the First Methodist Church, Room No. 4, Memphis, Tennessee, and was called to order by the Chairman, Dr. Lawrence T. Post, St. Louis, Missouri, who read his Chairman's Address entitled "Preventive Medicine in Ophthalmology."

Dr. Harry S. Gradle, Professor of Ophthalmology (Extra Mural), Northwestern University Medical School, Chicago, Illinois, read a paper entitled "Glaucoma Errors That I Have Made and That I Have Seen."

Dr. William D. Gill, San Antonio, Texas, read a paper entitled "Sympathetic Ophthalmia: Some Further Observations Regarding Its Etiology, Diagnosis and Treatment" (Lantern Slides), which was discussed by Dr. French K. Hansel, St. Louis, Missouri; Dr. James W. McKinney, Memphis, Tennessee; Dr. Oscar Wilkinson, Washington, District of Columbia; and in closing by the essayist.

Paper by Dr. J. Mason Baird and Dr. Grady E. Clay, Atlanta, Georgia, entitled "The Treatment of Corneal Ulcers," was read by Dr. Baird, and was discussed by Dr. Oscar Wilkinson, Washington, District of Columbia; Dr. Hugh Miller, Kansas City, Missouri; Dr. Phil M. Lewis, Memphis, Tennessee; Dr. Ralph O. Rychener, Memphis, Tennessee; Dr. G. M. Maxwell, Roanoke, Virginia; Dr. Rufus Jackson, Baton Rouge, Louisiana; and in closing by Dr. Baird.

The Chairman appointed the following Nominating Committee: Dr. K. W. Constantine, Birmingham, Alabama; Dr. John J. Shea, Memphis, Tennessee; and Dr. Robert E. Sullivan, Nashville, Tennessee.

The remainder of the program for this session was given in honor of Dr. E. C. Ellett, of Memphis, Tennessee, Dr. M. M. Cullom, Nashville, Tennessee, presiding. Following a tribute by Dr. Cullom, the following papers were read:

(a) "Reminiscences of Student and Intern Days," by Dr. Walter R. Parker, Detroit, Michigan.

(b) "Association in Early Practice," by Dr. Harvey B. Searcy, Tuscaloosa, Alabama.

(c) "The Colonel's Status in the World War," by Dr. Grady E. Clay, Atlanta, Georgia.

(d) "What Dr. Ellett Has Done for the Practice of Medicine in Memphis," by Dr. James B. Stanford, Memphis, Tennessee.

Dr. E. C. Ellett, Memphis, Tennessee, responded.

Thursday, November 23, 9:00 a. m.

The Section met in the First Methodist Church, Room No. 4, Memphis, Tennessee, and was called to order by the Vice-Chairman, Dr. C. C. Cody, who presided.

Dr. Errett Pace, Paducah, Kentucky, read a paper entitled "Radical Mastoidectomy," which was discussed by Dr. Louis Daily, Houston, Texas; and in closing by the essayist.

Dr. Chevalier L. Jackson, Professor of Clinical Bronchoscopy and Esophagoscopy, Temple University School of Medicine, Philadelphia, Pennsylvania, read a paper entitled "The Treatment of Cancer of the Larynx," which was discussed by Dr. Francis E. LeJeune, New Orleans, Louisiana; Dr. Murdock S. Equen, Atlanta, Georgia; Dr. George J. Taquino, New Orleans, Louisiana; Dr. C. C. Cody, Houston, Texas; and in closing by the essayist.

Dr. V. K. Hart, Charlotte, North Carolina, read a paper entitled "Prolonged Atelectasis of Foreign Body and Nonforeign Body Origin: Bronchiectasis as an End Result and Its Prevention by Bronchoscopic Care" (Lantern Slides and Motion Pictures), which was discussed by Dr. Francis E. LeJeune, New Orleans, Louisiana; Dr. Richmond McKinney, Memphis, Tennessee; Dr. Millard F. Arbuckle, St. Louis, Missouri; Dr. W. Likely Simpson, Memphis, Tennessee; Dr. Murdock S. Equen, Atlanta, Georgia; Dr. William A. Wagner, New Orleans, Louisana; Dr. Chevalier L. Jackson, Philadelphia, Pennsylvania; and in closing by the essayist.

Paper by Dr. Murdock S. Equen and Dr. Frank H. Neuffer, Atlanta, Georgia, entitled "Obstructive Chondroma Requiring Total Laryngectomy" (Lantern Slides), was read by Dr. Equen, and discussed by Dr. W. Likely Simpson, Memphis, Tennessee; Dr. Chevalier L. Jackson, Philadelphia, Pennsylvania; Dr. Charles D. Blassingame, Memphis, Tennessee; and in closing by Dr. Equen.

Dr. James B. Costen, St. Louis, Missouri, read a paper entitled "The Status of Retrobulbar Neuritis in Paranasal Sinus Disease," which was discussed by Dr. Millard F. Arbuckle, St. Louis, Missouri; Dr. John J. Shea, Memphis, Tennessee; Dr. B. Y. Alvis, St. Louis, Missouri; Dr. William A. Wagner, New Orleans, Louisiana; Dr. R. G. Reaves, Knoxville, Tennessee; and in closing by the essayist.

Dr. Edward W. Griffey, Houston, Texas, read a paper entitled "Management of Ocular Injuries with Special Reference to the Medicolegal Phases in the Industrial Accident Patient," which was discussed by Dr. Charles H. Haralson, Tulsa, Oklahoma; Dr. Ralph O. Rychener, Memphis, Tennessee; Dr. William D. Gill, San Antonio, Texas; and in closing by the essayist.

Friday, November 24, 9:00 a. m.

The Section met in the First Methodist Church, Room No. 4, Memphis, Tennessee, and was called to order by the Chairman, Dr. Post, who presided.

Dr. Sherman B. Forbes, Tampa, Florida, read a paper entitled "The Etiology of Nerve Deafness with Particular Reference to Quinine" (Lantern Slides), which was discussed by Dr. John H. Foster, Houston, Texas; Dr. Charles D. Blassingame, Memphis, Tennessee; Dr. Albert L. Bass, Louisville, Kentucky; Dr. C. C. Cody, Houston, Texas; and in closing by the essayist.

Dr. John E. Bordley, Baltimore, Maryland, read a paper entitled "The Treatment and Prevention of Deafness in Children" (Lantern Slides), which was discussed by Dr. Albert L. Bass, Louisville, Kentucky; Dr. William David Stinson, Memphis, Tennessee; Dr. Arthur M. Alden, St. Louis, Missouri; Dr. John H. Foster, Houston, Texas; Dr. W. Likely Simpson, Memphis, Tennessee; Dr. William Neill, Baltimore, Maryland; and in closing by the essayist.

Paper by Dr. B. H. Minchew, Dr. B. E. Collins and Dr. M. M. Harris, Waycross, Georgia, entitled "External Ear Diseases with Special Reference to the Fungoid Types" (Lantern Slides), was read by Dr. Minchew, and discussed by Dr. Reuben F. Simms, Richmond, Virginia; Dr. Paul L. Mahoney, Little Rock, Arkansas; Dr. Harvey B. Searcy, Tuscaloosa, Alabama; Dr. John J. Shea, Memphis, Tennessee; and in closing by Dr. Minchew.

Dr. Thomas W. Moore, Huntington, West Virginia, read a paper entitled "The Effects of Foods and Drugs on Cataracts."

Paper by Dr. Robin Harris and Dr. John S. Harter, Jackson, Mississippi, entitled "Night Blindness and Vitamin A Deficiency in Pulmonary Tuberculosis," was read by Dr. Harris.

Dr. E. Gordon Ferguson, Oklahoma City, Oklahoma, read a paper entitled "The Effects of Vitamins in Certain Eye Disorders."

Papers of Dr. Moore, Drs. Harris and Harter, and Dr. Ferguson were discussed by Dr. J. W. Jervey, Greenville, South Carolina; Dr. Ralph M. Clements, Tuscaloosa, Alabama; Dr. W. C. Langston, Little Rock, Arkansas; Dr. Harvey B. Searcy, Tuscaloosa, Alabama; Dr. K. W. Cosgrove, Little Rock, Arkansas; and in closing by Dr. Moore, Dr. Harris and Dr. Ferguson.

On motion by Dr. Murdock S. Equen, Atlanta, Georgia, seconded by Dr. Francis E. LeJeune, New Orleans, Louisiana, it was voted that hereafter the Section, besides holding the morning sessions, would also hold round table sessions on the Wednesday and Thursday afternoons, one afternoon on the eye, and the other on the ear, nose and throat.

The matter of moving the business session to an earlier day at future meetings was discussed, and by consent was left to the discretion of the Executive Committee.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Harvey B. Searcy, Tuscaloosa, Alabama.
Chairman-Elect—Dr. W. Likely Simpson, Memphis, Tennessee.
Vice-Chairman—Dr. Albert L. Bass, Louisville, Kentucky.
Secretary—Dr. L. Chester McHenry, Oklahoma City, Oklahoma.

The Section then adjourned *sine die*.

SECTION ON ANESTHESIA

Officers

Chairman—Dr. Carl W. Hoeflich, Houston, Texas.
Vice-Chairman—Dr. J. D. McCulley, Houston, Texas.
Secretary—Dr. Merrill C. Beck, New Orleans, Louisiana.

Thursday, November 22, 9:00 a. m.

The Section met in the First Methodist Church, Room No. 2, Memphis, Tennessee, and was called to order by the Chairman, Dr. Carl W. Hoeflich, Houston, Texas, who presided.

The Address of the Chairman, Dr. Carl W. Hoeflich, Houston, Texas, entitled "Use and Advantages of Carbon Dioxide Absorption Technic," was read by the Secretary, Dr. Merrill C. Beck, and discussed by Dr. J. B. Bogan, Washington, D. C.

Dr. Louis H. Ritzhaupt, Guthrie, Oklahoma, read a paper entitled "The Relaxed Abdomen and Its Surgical Advantage" (Lantern Slides and Motion Pictures), which was discussed by Dr. T. L. Tidmore, Atlanta, Georgia; Dr. Arthur R. Porter, Jr., Memphis, Tennessee; Dr. W. F. Robertson, San Antonio, Texas; and in closing by the essayist.

Paper by Dr. Bert E. Doudna and Dr. George S. Mechling, Oklahoma City, Oklahoma, entitled "Thyroid Anesthesia: A Comparative Study," was read by Dr. Mechling, and was discussed by Dr. Louis H. Ritzhaupt, Guthrie, Oklahoma; Dr. Dougal M. Dollar, Louisville, Kentucky; Dr. J. B. Bogan, Washington, D. C.; Dr. Gordon King, Jacksonville, Florida; Dr. Eldon B. Tucker, Morgantown, West Virginia; Dr. Merrill C. Beck, New Orleans, Louisiana; and in closing by Dr. Mechling.

Dr. E. Bryce Robinson, Jr., Fairfield, Alabama, read a paper entitled "Use of Pontocaine in Spinal Anesthesia" (Lantern Slides), which was discussed by Dr. Frank H. Bassett, Hopkinsville, Kentucky; Dr. Perry P. Volpitto, Augusta, Georgia; Dr. Dougal M. Dollar, Louisville, Kentucky; Dr. Louis H. Ritz-

haupt, Guthrie, Oklahoma; Dr. Merrill C. Beck, New Orleans, Louisiana; Dr. Eldon B. Tucker, Morgantown, West Virginia; Dr. B. C. Willis, Rocky Mount, North Carolina; Dr. G. H. Bunch, Columbia, South Carolina; and in closing by the essayist.

Thursday, November 22, 2:00 p. m.

The Section met in the First Methodist Church, Room No. 2, Memphis, Tennessee, and was called to order by the Chairman, Dr. Hoeflich, who presented Dr. T. L. Tidmore, Atlanta, Georgia, as the presiding officer for the afternoon.

Dr. Michael F. DeBakey, New Orleans, Louisiana, read a paper entitled "Indications for Therapeutic and Diagnostic Block of the Sympathetics" (Lantern Slides), which was discussed by Dr. Alton Ochsner, New Orleans, Louisiana; Dr. Perry P. Volpitto, Augusta, Georgia; and in closing by the essayist.

Dr. Eldon B. Tucker, Morgantown, West Virginia, read a paper entitled "Professional Anesthesia in a Small Community," which was discussed by Dr. Merrill C. Beck, New Orleans, Louisiana; Dr. Carl W. Hoeflich, Houston, Texas; Dr. J. B. Bogan, Washington, D. C.; Dr. T. L. Tidmore, Atlanta, Georgia; and in closing by the essayist.

Dr. James H. Bennett, Galveston, Texas, read a paper entitled "Report by the Department of Anesthesia of the John Sealy Hospital for the Year Ending August 31, 1939" (Lantern Slides), which was discussed by Dr. C. M. Brooks, Little Rock, Arkansas, and in closing by the essayist.

Dr. Perry P. Volpitto, Augusta, Georgia, read a paper entitled "Intracaine in Regional Anesthesia: A Clinical Report."

Dr. Dougal M. Dollar, Louisville, Kentucky, read a paper entitled "Novocain and Nupercaine Spinals."

Papers by Dr. Volpitto and Dr. Dollar were discussed by Dr. E. Bryce Robinson, Jr., Fairfield, Alabama.

Dr. Hubert R. Hathaway, Madison, Wisconsin, read a paper entitled "Use of Cyclopropane in the Wisconsin General Hospital During the Past Year" (Lantern Slides), which was discussed by Dr. Merrill C. Beck, New Orleans, Louisiana; Dr. Gordon King, Jacksonville, Florida; Dr. Eldon B. Tucker, Morgantown, West Virginia; Dr. Carl W. Hoeflich, Houston, Texas; and in closing by the essayist.

The Section proceeded to the election of Section Officers with the following results:

Chairman—Dr. R. Douglas Sanders, Louisville, Kentucky.
Vice-Chairman—Dr. George S. Mechling, Oklahoma City, Oklahoma.
Secretary—Dr. Merrill C. Beck, New Orleans, Louisiana.

The Section then adjourned *sine die*.

SECTION ON MEDICAL EDUCATION AND HOSPITAL TRAINING

Officers

Chairman—Dr. M. Pinson Neal, Columbia, Missouri.
Vice-Chairman—Dr. Robert U. Patterson, Oklahoma City, Oklahoma.
Secretary—Dr. Harvey B. Haag, Richmond, Virginia.

Wednesday, November 22, 9:00 a. m.

The Section met in the Municipal Auditorium, Room No. 3, Memphis, Tennessee, and was called to order by the Chairman, Dr. M. Pinson Neal, Columbia, Missouri, who presided.

The Chairman appointed the following Nominating Committee: Dr. Frank R. Bradley, St. Louis, Missouri; Dr. William H. Harris, New Orleans, Louisiana; and Dr. R. H. Oppenheimer, Atlanta, Georgia.

Dr. M. Pinson Neal, Columbia, Missouri, read his Chairman's Address entitled "Health Education for the Public."

Dr. Fred C. Zapffe, Secretary, Association of American Medical College, Chicago, Illinois, read a paper entitled "The Origin and Present-Day Application of the Program of Standardization of Medical Schools," which was discussed by Dr. M. Pinson Neal, Columbia, Missouri; Dr. Spafford Ackerly, Louisville, Kentucky; Dr. C. C. Bass, New Orleans, Louisiana; Dr. Frederick H. Dieterich, Miami Beach, Florida; Dr. R. H. Oppenheimer, Atlanta, Georgia; Dr. Harvey B. Haag, Richmond, Virginia; and in closing by the essayist.

Paper by Dr. William H. Harris, Department of Pathology and Bacteriology, Tulane University School of Medicine, and William H. Harris, Jr. (Senior Medical Student), New Orleans, Louisiana, entitled "Differential and Symphonic Teaching, Especially in the First Two Years of Medicine," was read by Dr. William H. Harris, and was discussed by Dr. W. K. Keller, Louisville, Kentucky.

The Chairman, Dr. Neal, read a telegram from Dr. A. J. Hockett, New Orleans, Louisiana, expressing his regret at being unable to attend the Section meeting and present his paper.

Dr. F. R. Bradley, Superintendent, Barnes Hospital, St. Louis, Missouri, read a paper entitled "The Hospital's Responsibility for Organization and Supervision of Training for Interns and Residents in the Preparation for the Practice of Medicine and for the Various Boards of Certification," which was discussed by Dr. Carlo J. Tripoli, New Orleans, Louisiana; Dr. Stuart P. Cromer, Little Rock, Arkansas; Dr. Isidore Cohn, New Orleans, Louisiana; and in closing by the essayist.

Dr. H. D. Moor, Professor of Bacteriology, University of Oklahoma School of Medicine, Oklahoma City, Oklahoma, read a paper entitled "The Physical Requirements for Entrance and the Supervision of the Health and Welfare of Students During the Medical Course," which was discussed by Dr. W. K. Keller, Louisville, Kentucky; Dr. Carlo J. Tripoli, New Orleans, Louisiana; and in closing by the essayist.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Robert U. Patterson, Oklahoma City, Oklahoma.
Vice-Chairman—Dr. O. W. Hyman, Memphis, Tennessee.
Secretary—Dr. Harvey B. Haag, Richmond, Virginia.

The Section then adjourned *sine die*.

SECTION ON PUBLIC HEALTH

Officers

Chairman—Dr. G. Foard McGinnes, Memphis, Tennessee.
Vice-Chairman—Dr. Charles M. Pearce, Oklahoma City, Oklahoma.
Secretary—Dr. Henry C. Ricks, Jackson, Mississippi.

Wednesday, November 22, 2:00 p. m.

The Section met in the Municipal Auditorium, Room No. 2, Memphis, Tennessee, and was called to order by the Chairman, Dr. G. Foard McGinnes, Memphis, Tennessee, who presided.

The Chairman appointed the following Nominating Committee: Dr. W. C. Williams, Nashville, Tennessee; Dr. Archie L. Gray, Jackson, Mississippi; and Dr. E. C. Harper, Richmond, Virginia.

Paper by Dr. Burton F. Austin and Dr. Eva F. Dodge, Montgomery, Alabama, entitled "The Development and Progress of the Maternity Clinic Program in Alabama" (Lantern Slides), was read by Dr. Austin, the slides being shown by Dr. Dodge, and was discussed by Dr. John A. Milne, Jackson, Mississippi; Dr. Robert W. Ball, Columbia, South Carolina; Dr. W. S. Leathers, Nashville, Tennessee; and in closing by the essayists.

Dr. G. Foard McGinnes, Memphis, Tennessee, read his Chairman's Address entitled "A Program for the Control of Syphilis."

Dr. John R. Heller, Jr., New Orleans, Louisiana, read a paper entitled "Progress of Syphilis Control in the Southern States" (Lantern Slides), which was discussed by Dr. Archie L. Gray, Jackson, Mississippi; Dr. Frank L. Roberts, Memphis, Tennessee; Dr. W. H. Y. Smith, Montgomery, Alabama; and in closing by the essayist.

Paper by Dr. William V. Sanford, Dr. A. E. Hardison, Dr. C. B. Tucker and (Miss) Ruth R. Puffer, Nashville, Tennessee, entitled "Diphtheria in Tennessee: Administrative Aspects in Its Control" (Lantern Slides), was read by Dr. Sanford, and was discussed by Dr. G. Foard McGinnes, Memphis, Tennessee; Dr. John A. Milne, Jackson, Mississippi; Dr. E. L. Bishop, Chattanooga, Tennessee; and in closing by Dr. Sanford.

Dr. Joseph W. Mountin, Washington, D. C., read a paper entitled "The Distribution of Hospitals and Their Financial Support in Southern States" (Lantern Slides), which was discussed by Dr. W. S. Leathers, Nashville, Tennessee; Dr. E. L. Bishop, Chattanooga, Tennessee; and in closing by the essayist.

Dr. Isadore Dyer, Tahlequah, Oklahoma, read a paper entitled "Measles Complicating Pregnancy, Including Three Instances of Congenital Measles" (Lantern Slides), which was discussed by Dr. Robert A. Strong, New Orleans, Louisiana; and in closing by the essayist.

The Section then adjourned until 9:00 a. m. Thursday.

Thursday, November 23, 9:00 a. m.

The Section met in the Municipal Auditorium, Room No. 2, Memphis, Tennessee, and was called to order by the Chairman, Dr. McGinnes, who presided.

Dr. K. B. Kerr, Washington, D. C., read a paper entitled "The Present Status of the Trichinosis Problem in the South" (Lantern Slides), which was discussed by Dr. Henry E. Meleney, Nashville, Tennessee; Dr. Willi Sawitz, New Orleans, Louisiana; and in closing by the essayist.

Dr. Ernest L. Stebbins, Albany, New York, read a paper entitled "Recent Studies of Epidemic Diarrhea and Dysentery" (Lantern Slides), which was discussed by Dr. L. M. Graves, Memphis, Tennessee; Dr. Henry E. Meleney, Nashville, Tennessee; Dr. James A. Crabtree, Washington, D. C.; and in closing by the essayist.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. W. B. Grayson, Little Rock, Arkansas.
Vice-Chairman—Dr. L. M. Graves, Memphis, Tennessee.
Secretary—Dr. Henry C. Ricks, Jackson, Mississippi.

Dr. E. C. Harper, Richmond, Virginia, read a paper entitled "Collapse Therapy in a State Tuberculosis Program" (Lantern Slides), which was discussed by Dr. Everett C. Drash, Charlottesville, Virginia; Dr. Earl Floyd, Atlanta, Georgia; Dr. Edward Hubbard, Huntington, West Virginia; and in closing by the essayist.

Dr. Willi Sawitz, New Orleans, Louisiana, read a paper entitled "Oxyuriasis as a Public Health Problem in the South" (Lantern Slides), which was discussed by Dr. W. H. Wright, Washington, D. C.; Dr. E. J. Sunkes, State Department of Health, Atlanta, Georgia; and in closing by the essayist.

Dr. John M. Gibson, Montgomery, Alabama, read a paper entitled "Publicity's Place in the Public Health Program."

The Section then adjourned *sine die*.

AMERICAN PUBLIC HEALTH ASSOCIATION
Southern Branch

Meeting conjointly with Southern Medical Association

Officers

President—Dr. J. N. Baker, Montgomery, Alabama.
First Vice-President—Dr. W. B. Grayson, Little Rock, Arkansas.
Second Vice-President—Mr. V. M. Ehlers, Austin, Texas.
Third Vice-President—Miss Donna Pearce, New Orleans, Louisiana.
Secretary-Treasurer—Dr. P. E. Blackerby, Louisville, Kentucky.

Tuesday, November 21, 12:30 noon

The meeting of the Governing Council was held as a luncheon at the Peabody Hotel, Memphis, Dr. J. N. Baker, President, presiding.

Tuesday, November 21, 2:00 p. m.

The eighth annual General Scientific Session convened in the Municipal Auditorium, Room No. 2, Memphis, Tennessee, and was called to order by the President, Dr. J. N. Baker, who presided.

The President, Dr. Baker, requested Dr. G. Foard McGinnes, Memphis, to act as Secretary in the absence of the regular Secretary, Dr. Blackerby.

The Acting Secretary was instructed to send a telegram of sympathy to Dr. P. E. Blackerby, Secretary-Treasurer, who was in Vanderbilt Hospital, Nashville, due to an automobile accident en route to the meeting.

Dr. J. N. Baker, State Health Officer, Montgomery, Alabama, read his President's Address entitled "Alabama's Contribution to Public Health."

Dr. Robert H. Riley, Director, Maryland State Department of Health, Baltimore, Maryland, read a paper entitled "The Development of a Public Health Program in Maryland."

The Chairman appointed the following Nominating Committee: Dr. Arthur T. McCormack, Louisville, Kentucky; Dr. Frances C. Rothert, New Orleans, Louisiana; and Dr. B. F. Wyman, Columbia, South Carolina.

Dr. John A. Ferrell, Associate Director, The Rockefeller Foundation, New York, New York, read a paper entitled "Future Problems in the Public Health Field," which was discussed by Dr. W. F. Walker, Director, Division of Health Studies, Commonwealth Fund, New York, New York; Dr. Frances C. Rothert, Regional Medical Consultant, U. S. Children's Bureau, New Orleans, Louisiana; Dr. Lewis C. Spencer, Harrisburg, Louisiana; and Dr. Arthur T. McCormack, State Health Officer, Louisville, Kentucky.

Dr. W. C. Williams, State Commissioner of Public Health, Nashville, Tennessee, read a paper entitled "The Need for a Better and More Comprehensive Program with the Medical Profession in Relation to Tuberculosis Prevention and Treatment," which was discussed by Dr. Robert W. Todd, Louisiana State Board of Health, New Orleans, Louisiana, and Dr. Duane Carr, Memphis, Tennessee.

The Association then adjourned until 9:30 a. m. Wednesday.

Wednesday, November 22, 9:30 a. m.

The General Scientific Session convened in the Municipal Auditorium, Room No. 2, Memphis, Tennessee, and was called to order by the President, Dr. Baker, who presided.

Dr. Charles B. Crittendon, Director, Division of Materaal and Child Health, Kentucky State Department of Health, Louisville, Kentucky, read a paper entitled "The Influence of Inadequate Medical Services in the Rural Population on Public Health Progress," which was discussed by Dr. C. C. Howard, Glasgow, Kentucky; Dr. W. B. Grayson, State Health Officer, Little Rock, Arkansas; Dr. Arthur T. McCormack, State Health Officer, Louisville, Kentucky; Dr. Robert H. Riley, Director, Maryland State Department of Health, Baltimore, Maryland; Dr. Felix J. Underwood, State Health Officer, Jackson, Mississippi; and Dr. J. D. Dowling, Birmingham, Alabama.

Dr. Lonsdale J. Roper, Director, Division of Rural Health, State Department of Health, Richmond, Virginia, read a paper entitled "The Role of Clinics in County Health Departments," which was discussed by Dr. Norris C. Knight, Director, Field Training, Clarksdale, Mississippi, and Dr. Carl M. Gambill, Health Officer, Scott County, Georgetown, Kentucky.

The Nominating Committee reported the following nominees for officers, the nominees being duly elected by vote of the Association:

President—Dr. G. Foard McGinnes, Memphis, Tennessee.
First Vice-President—Dr. C. V. Reynolds, Raleigh, North Carolina.
Second Vice-President—Mr. James H. Stephens, Columbia, South Carolina.
Third Vice-President—Miss Ruth A. Heintzelman, R.N., Washington, D. C.
Secretary-Treasurer—Dr. P. E. Blackerby, Louisville, Kentucky.

A rising vote of thanks was given to the President, Vice-President and Secretary for their effective work during the past year, and to the Acting Secretary for his services at this meeting.

Dr. Frank C. Cady (D.D.S.), U. S. Public Health Service, Washington, D. C., read a paper entitled "Recent Developments in the Public Health Dental Program," which was discussed by Dr. P. E. Blackerby, Jr. (D.D.S.), State Department of Public Health, Nashville, Tennessee, and Dr. E. A. Branch (D.D.S.), State Department of Health, Raleigh, North Carolina.

Paper by Dr. W. H. Y. Smith, Bureau of Preventable Diseases, Alabama State Department of Health, and Dr. S. R. Damon (Ph.D.), Director of Laboratories, Alabama State Department of Health, Montgomery, Alabama, entitled "Diagnosis and Treatment

of Pinworm Infestation," was read by Dr. Smith, and was discussed by Dr. Alvin E. Keller, Vanderbilt University School of Medicine, Nashville, Tennessee.

Dr. Archie L. Gray, Division of Preventable Disease Control, Mississippi State Board of Health, Jackson, Mississippi, read a paper entitled "Are Typhoid Carriers Intermittent in the Excretion of Typhoid Organisms?," which was discussed by Dr. Henry C. Ricks, Director, State Hygienic Laboratory, Jackson, Mississippi; Dr. G. Foard McGinnes, City Health Department, Memphis, Tennessee; and Dr. C. B. Tucker, Associate Director, Division of Preventable Disease Control, State Department of Public Health, Nashville, Tennessee.

The Association then adjourned *sine die*.

Tuesday, November 21, 10:00 a. m.

The Public Health Nursing Section met in the Municipal Auditorium, Room No. 2, Memphis, Tennessee, and was called to order by the Chairman, (Miss) Mary I. Mastin, R.N., who presided.

Two papers composing a Symposium on School Health Service were read: (1) "From the Standpoint of the Educator," (Mr.) Ernest Ball, Superintendent of Schools, Memphis, Tennessee, and (2) "From the Standpoint of the Nurse," (Miss) Robina Kneebone, R.N., Supervisor of Health, Public Schools, Kansas City, Missouri. Other papers read were: (1) "Community Participation," (Miss) Zoe LaForge, R.N., Director, Division of Rural Child Hygiene and Public Health Nursing, City-County Board of Health, Birmingham, Alabama, read by Miss Margaret Winfrey, R.N., in absence of Miss LaForge, and (2) "Services to Crippled Children in a Generalized Public Health Nursing Program," (Miss) Ruth A. Heintzelman, R.N., U. S. Children's Bureau, Washington, D. C.

At the business session the following officers were elected: Chairman, Miss Emma Maurin, R.N., State Board of Health, New Orleans, Louisiana; Vice-Chairman, Mrs. Frank George, R.N., State Board of Health, Columbia, South Carolina; and Secretary, Miss Ora E. Phillips, R.N., State Board of Health, Jackson, Mississippi.

Tuesday, November 21

The Sanitary Engineers' and Sanitation Officers' Section met in the Municipal Auditorium, Room No. 4, Memphis, Tennessee, for the morning session beginning at 10:00 a. m., and at the Shelby County Courthouse, Room 212, for the afternoon session beginning at 2:00 o'clock, the Chairman, Mr. H. A. Kroeze, Jackson, Mississippi, presiding.

The following presentations were made: Mr. T. A. Randle, District Supervisor, Malaria Control, Mississippi State Board of Health, Tupelo, Mississippi, "New Developments in Underground Draining for Malaria Control." Mr. W. H. Grisham, City Health Department, Memphis, Tennessee, "Practical Problems and Difficulties in Malaria Control Work." Dr. W. K. Sharp, Regional Consultant, USPHS, New Orleans, Louisiana, "Observation on Rural Sanitation Problems in the South." Mr. Cyrus Emery, Chief Sanitation Supervisor, Jones County Health Department, Laurel, Mississippi, "A County-Wide Program of Rural Water Supply Improvement." Dr. Rex D. Bushong (D.V.M.), and Mr. Alfred H. Fletcher, Director, Division of Food and Milk, and Director, Division of Sanitary Engineering, City Health Department, Memphis, Tennessee, "Administrative Problems in Securing Proper Bactericidal Treatment of Eating and Drinking Utensils." Mr. Roy J. Boston, Associate Engineer, Typhus Control, State Health Department, Atlanta, Georgia, "Public Health Engineering Phases of Murine Typhus Control." Mr. V. M. Ehlers, Director, Bureau of Sanitary Engineering, State Board of Health, Austin, Texas, "Training and Licensing of Pasteurization Plant Operators." Mr. Warren H. Booker, Director, Division of Sanitary Engineering, State Board of Health, Raleigh, North Carolina, "Methods of Securing Results in Milk Sanitation and in Other Sanitation Activities." Mr. C. A. Abele, Director, Bureau of Inspection, State Health Department, Montgomery, Alabama, "Effect Upon Plate Counts of Milk and Milk Products of the Change in the Composition of Standard Methods Agar."

At a business session the following officers were elected: Chairman, Mr. H. G. Tuggle, Shelby County Health Department, Memphis, Tennessee; Vice-Chairman, Mr. C. A. Abele, State Health Department, Montgomery, Alabama; and Secretary-Treasurer, Mr. John Andrews, State Board of Health, Raleigh, North Carolina.

NATIONAL MALARIA COMMITTEE

Meeting conjointly with Southern Medical Association

Officers

Honorary Chairman—Dr. L. O. Howard, Washington, D. C.
Chairman—(Mr.) L. M. Clarkson, Atlanta, Georgia.
Chairman-Elect—(Mr.) W. G. Stromquist, Chattanooga, Tennessee.
Vice-Chairman—Dr. L. T. Coggeshall, New York, New York.
Secretary-Treasurer—Dr. Mark F. Boyd, Tallahassee, Florida.

Wednesday, November 22, 9:00 a. m.

The business meeting of the twenty-second annual session of the National Malaria Committee was held at the Municipal Auditorium, Memphis, Tennessee, and was called to order by the Chairman, Mr. L. M. Clarkson, Atlanta, Georgia, who presided.

The minutes of the 1938 meeting held in Oklahoma City, Oklahoma, were approved as published in the January 1939 issue of the SOUTHERN MEDICAL JOURNAL.

The Chairman appointed the following temporary sub-committees: Auditing—Dr. R. B. Watson, Wilson Dam, Alabama; Mr. Davis Lee, Pensacola, Florida; and Dr. C. M. McGill, Savannah, Georgia. Nominating—Dr. L. T. Coggeshall, New York, New York; Dr. W. V. King, Orlando, Florida; and Mr. N. H. Rector, Jackson, Mississippi.

The Secretary-Treasurer reported 198 active members and 20 honorary members, a total of 218; and cash receipts $329.36, added to balance on hand last year of $394.61, total $723.97, with disbursement of $612.85, leaving a balance on hand of $111.12. The financial report was referred to the Auditing Committee.

The Secretary reported on the correspondence between him and the Secretary of the American Association for the Advancement of Science, the Committee being invited to affiliate with the American Association and to participate in a Symposium on Malaria sponsored by Section N of the American Association for the 1940 meeting. The invitations were accepted. Mr. H. A. Johnson, Washington, D. C., was appointed the Committee's representative on the Symposium Committee.

The following Sub-Committees reported: (a) Malaria Prevention Activities by Mr. H. A. Johnson, Washington, D. C.; (b) Epidemiology by Dr. Justin Andrews, Atlanta, Georgia; (c) Medical Research by Dr. M. A. Roe, Washington, D. C.; (d) Entomology by Mr. G. H. Bradley, Orlando, Florida; (e) Statistics by Dr. J. E. Elmendorf, Jr., Pensacola, Florida; (f) Engineering by Mr. N. H. Rector, Jackson, Mississippi; and (g) Malaria Mortality in 1938 by Dr. E. C. Faust, New Orleans, Louisiana.

The Secretary presented a discussion of the present status of the organization and outlined several problems requiring early solution of the Committee: (a) the appropriateness of the present designation of the organization; (b) affiliations; (c) the problem of publications; (d) the definition of our obligation to honorary members; and (e) the adequacy of income in relation to publication. This was referred to a committee to report next year.

A proposal for the Committee to indorse a short quinine treatment was, after discussion, laid on the table.

The Sub-Committee on Auditing approved the report of the Secretary-Treasurer and recommended an honorarium of $50.00 to his Secretary.

The Sub-Committee on Nominations offered the following nominations, the Secretary being instructed to cast the unanimous vote for the nominees:

Honorary Chairman—Dr. L. O. Howard, Washington, D. C.
Chairman—Mr. W. G. Stromquist, Chattanooga, Tennessee.
Chairman-Elect—Dr. J. N. Baker, Montgomery, Alabama.
Vice-Chairman—Mr. John H. O'Neill, New Orleans, Louisiana.
Secretary-Treasurer—Dr. Mark F. Boyd, Tallahassee, Florida.

The Committee then adjourned until 2:00 p. m. Thursday.

Thursday, November 23, 2:00 p. m.

A joint scientific session of the National Malaria Committee and American Society of Tropical Medicine convened at the

Municipal Auditorium, Memphis, Tennessee, Mr. L. M. Clarkson, Chairman of the National Malaria Committee, and Dr. Thomas T. Mackie, President-Elect of the American Society of Tropical Medicine, presiding.

Dr. Charles F. Craig, Colonel, U. S. Army, Retired, San Antonio, Texas, read a paper entitled "The 'Short-Term' Treatment of Malaria Infections with Quinine."

Dr. Harry Most, New York University College of Medicine, New York, New York, read a paper entitled "Malignant Malaria in Drug Addicts: Epidemiologic, Clinical and Laboratory Studies" (Lantern Slides).

Dr. L. W. Hackett, International Health Division, Rockefeller Foundation, Institute di Sanita Publica, Rome, Italy, read a paper entitled "Some Characteristics of Malaria in Egypt" (Lantern Slides).

Dr. Justin Andrews, Director, Malaria Investigations Service, Georgia State Department of Health, Atlanta, Georgia, read a paper entitled "County-Wide Malaria Investigation and Control in Georgia."

Dr. Chas. Morris McGill, Assistant Surgeon, U. S. Public Health Service, Henry Rose Carter Memorial Laboratory, Savannah, Georgia, read a paper entitled "Results of Two Years' Atabrine Prophylaxis" (Lantern Slides).

Paper by Dr. Martin D. Young, Dr. Trawick H. Stubbs and Dr. G. Robert Coatney, U. S. Public Health Service, Columbia, South Carolina, entitled "Periodic Phenomena of Plasmodium Malariae in Negro Paretics" (Lantern Slides), was read by Dr. Young.

The Committee then adjourned until 9:00 a. m. Friday.

Friday, November 24, 9:00 a. m.

The Committee convened at the Municipal Auditorium, Memphis, Tennessee, and was called to order by the Chairman, Mr. L. M. Clarkson, Atlanta, Georgia, who read his Chairman's Address entitled "Engineering Phases of Malaria Control."

Dr. F. L. Knowles, Associate Physicist, U. S. Public Health Service, Henry Rose Carter Memorial Laboratory, Savannah, Georgia, read a paper entitled "Variation in Hydrogen Ion Concentration in Ponds" (Lantern Slides).

Paper by Dr. Arnoldo Gabaldon, Dr. Jose Antonio Lopez and Dr. Manuel Ochoa-Palacios, Division de Malariologia, Direccion de Salubridad Publica, Minesterio de Sanidad y Assistencia Social, Caracas, Venezuela, entitled "A Curious Variation of the Density of Anophelines Observed in Consecutive Daily Readings of Baited Stable-Traps," was read by Dr. Arnoldo Gabaldon.

Dr. John E. Elmendorf, Jr., International Health Division, The Rockefeller Foundation, Escambia County Health Department, Pensacola, Florida, read a paper entitled "A Screening Program for Rural Malaria" (Lantern Slides).

Mr. C. C. Kiker, Tennessee Valley Authority, Wilson Dam, Alabama, read a paper entitled "Mosquito Proofing for Malaria Control from the Standpoint of Construction and Maintenance Costs."

Paper by Miss Helen C. Maher and Dr. Robert Briggs Watson, Tennessee Valley Authority, Wilson Dam, Alabama, entitled "Observation of One Year's Experience of Mosquito Proofing for Malaria Control" (Lantern Slides), was read by Miss Maher.

Mr. W. B. Fowler, City Engineer, Memphis, Tennessee, read a paper entitled "Permanent Drainage for Malaria Control with Special Reference to the Design of Culvert" (Illustrations).

Mr. David B. Lee, Escambia County Health Department, Pensacola, Florida, read a paper entitled "Precast Products vs. Monolithic Linings for Malaria Drainage Ditches" (Lantern Slides).

Paper by Mr. Stanley J. Carpenter, Director, Division of Malaria Investigations, Arkansas State Board of Health, Little Rock, Arkansas; Dr. W. B. Grayson, Director, State Board of Health, Little Rock, Arkansas; and Dr. Roy E. Schirmer, Director, Mississippi County Health Unit, Blytheville, Arkansas, entitled "Known Costs of Malaria in Mississippi County, Arkansas," was read by Mr. Carpenter.

Following the scientific program there was a brief recess, after which the Committee reconvened to consider items of new business. Several matters were considered and resolutions offered and passed having to do with these matters.

The Committee then adjourned *sine die*.

AMERICAN SOCIETY OF TROPICAL MEDICINE

Meeting conjointly with Southern Medical Association

Officers

President—Dr. Alfred C. Reed, San Francisco, California.
President-Elect—Dr. L. L. Williams, Jr., Washington, D. C.
Vice-President—Dr. S. S. Cook, Norfolk, Virginia.
Secretary-Treasurer—Dr. E. Harold Hinman, Wilson Dam, Alabama.
Editor—Dr. Charles F. Craig, San Antonio, Texas.

Tuesday, November 21, 2:00 p. m.

The Society met in the Municipal Auditorium, Memphis, Tennessee, and was called to order by the President, Dr. Alfred C. Reed, San Francisco, California, who presided. A feature of this Scientific Session was the fourth Charles Franklin Craig Lecture on Tropical Medicine entitled "The Mechanism of Acquired Immunity to Metazoal Parasites," by Dr. W. H. Taliaferro, University of Chicago, Chicago, Illinois; and the award of the Walter Reed Medal to Dr. William B. Castle, Harvard University, Boston, Massachusetts, the presentation being made by Dr. Richard P. Strong, Boston, Massachusetts.

Tuesday, November 21, 6:30 p. m.

The annual dinner and business meeting of the Council of the Society was held at the Claridge Hotel.

Wednesday, November 22

The second Scientific Session of the Society was held at the Municipal Auditorium, Memphis, Tennessee, and was called to order at 9:30 a. m. by the President, Dr. Reed, who presided.

The third Scientific Session of the Society met in the Municipal Auditorium, Memphis, Tennessee, and was called to order at 2:00 p. m. by the President, Dr. Reed, who presided. A brief Annual Business Meeting of the Society was held, following which there was a Scientific Session.

At the business session the following officers were elected for the ensuing year:

President—Dr. L. L. Williams, Jr., Washington, D. C.
President-Elect—Dr. Thomas T. Mackie, New York, New York.
Vice-President—Dr. Malcolm H. Soule, Ann Arbor, Michigan.
Secretary-Treasurer—Dr. E. Harold Hinman, Wilson Dam, Alabama.
Editor—Dr. Charles F. Craig, San Antonio, Texas.
Councilors—Dr. R. A. Lambert, New York, New York; Dr. N. Paul Hudson, Columbus, Ohio; Dr. Mark F. Boyd, Tallahassee, Florida; Dr. Alfred C. Reed, San Francisco, California; Dr. J. S. Simmons, Boston, Massachusetts; Dr. Henry E. Meleney, Nashville, Tennessee; Dr. L. T. Coggeshall, New York, New York; and Dr. Jean A. Curran, Brooklyn, New York.

In the late afternoon there was a demonstration of the Malaria Research Program of the University of Tennessee College of Medicine at the College Building on Union Avenue.

Thursday, November 23, 12:00 noon

The annual luncheon of the Society was held at the Claridge Hotel, Memphis, and was attended by eighty members and guests of the Society. The President-Elect, Dr. Thomas T. Mackie, New York, presided. The President, Dr. Alfred C. Reed, San Francisco, California, read his President's Address entitled "The Future of Tropical Medicine."

Thursday, November 23, 2:00 p. m.

The Society met at the Municipal Auditorium, Memphis, Tennessee, in joint session with the National Malaria Committee, Dr. Thomas T. Mackie, President-Elect of the American Society of Tropical Medicine, New York, New York, and Mr. L. M. Clarkson, Chairman of the National Malaria Committee, Atlanta, Georgia, presiding.

With the completion of the program on Thursday afternoon the Society adjourned to hold its next annual meeting in conjunction with the annual meeting of the Southern Medical Association in Louisville, Kentucky, November 12-15, 1940.

AMERICAN ACADEMY OF TROPICAL MEDICINE

Meeting conjointly with the American Society of Tropical Medicine

Officers

President—Dr. William Walter Cort, Baltimore, Maryland.
Vice-President—Dr. Charles S. Butler, Washington, D. C.
Secretary—Dr. Ernest Carroll Faust, New Orleans, Louisiana.
Treasurer—Dr. Thomas T. Mackie, New York, New York.

Thursday, November 23, 7:00 p. m.

The American Academy of Tropical Medicine held its sixth annual dinner at the Claridge Hotel, Memphis. All members of the American Society of Tropical Medicine were cordially invited to attend. Dr. W. H. Taliaferro, Chicago, Illinois, was toastmaster. The President of the Academy, Dr. W. W. Cort, Johns Hopkins University School of Medicine, Baltimore, read his President's Address entitled "Research on Helminth Diseases and Public Health Progress."

The second award of the Theobold Smith Medal of George Washington University School of Medicine was made to Dr. Richard P. Strong, Harvard Medical School, Boston, the presentation being made by Dr. Alfred C. Reed, San Francisco, California.

At a business session the following officers were elected for the ensuing year:

President—Dr. Charles S. Butler, Bristol, Tennessee.
Vice-President—Dr. Marshall A. Barber, Boston, Massachusetts.
Secretary—Dr. Ernest Carroll Faust, New Orleans, Louisiana.
Treasurer—Dr. Thomas T. Mackie, New York, New York.
Councilors—Dr. George R. Callender, Washington, D. C.; Dr. Herbert C. Clark, Panama, R. de P.; Dr. Alfred C. Reed, San Francisco, California; Dr. George C. Shattuck, Boston, Massachusetts; and Dr. Wm. H. Taliaferro, Chicago, Illinois.

MISSISSIPPI VALLEY STUDENT HEALTH ASSOCIATION

Officers

President—Dr. J. Wilbur Armstrong, Berea College, Berea, Kentucky.
Vice-President—Dr. John S. Chambers, University of Kentucky, Lexington, Kentucky.
Secretary-Treasurer—Dr. Thos. B. Zerfoss, Vanderbilt University, Nashville, Tennessee.

Monday, November 20

The Mississippi Valley Student Health Association met at the Peabody Hotel, Memphis, Tennessee, and was called to order at 9:00 a.m. by the Chairman, Dr. J. Wilbur Armstrong, who presided. At the morning session there were two round table discussion periods: (1) "College Health Education", led by Dr. Jacob D. Farris, Eastern Kentucky State Teachers College, Richmond, Kentucky, and (2) "Student Health Service", led by Dr. Thos. B. Zerfoss, Vanderbilt University, Nashville, Tennessee.

At the noon hour there was a luncheon, the Chairman presiding and introducing as the speaker of the occasion Dr. Walter E. Vest, President, Southern Medical Association, Huntington, West Virginia, who spoke on "The Student Health Movement and the Practicing Physician".

At the afternoon session three subjects were presented and informal discussions were had on them: (1) "Relative Values in College Student Health Work", by Dr. Warren E. Forsythe, University of Michigan, Ann Arbor, Michigan; (2) "Cardiac Function in Relation to Athletics", by Dr. Dan G. Stine, University of Missouri, Columbia, Missouri; and (3) "Tuberculosis as a Problem in Our Colleges," by Dr. John S. Chambers, University of Kentucky, Lexington, Kentucky.

At a business session the following officers were elected for next year: President, Dr. R. M. Powell, University of Tennessee, Knoxville, Tennessee; Vice-President, Dr. C. B. Mitchell, Mississippi State College, State College, Mississippi; Secretary-Treasurer, Dr. Ruby H. Paine, Berea College, Berea, Kentucky; and Executive Committee, Dr. T. B. Zerfoss, Vanderbilt University, Nashville, Tennessee; and Dr. H. B. Schwartz, Arkansas State College, Arkansas.

WOMAN'S AUXILIARY TO THE SOUTHERN MEDICAL ASSOCIATION

Officers

President—Mrs. W. K. West, Oklahoma City, Oklahoma.
President-Elect—Mrs. Charles P. Corn, Greenville, South Carolina.
First Vice-President—Mrs. Lewis J. Moorman, Oklahoma City, Oklahoma.
Second Vice-President—Mrs. Olin S. Cofer, Atlanta, Georgia.
Recording Secretary—Miss Grace Stroud, Louisville, Kentucky.
Corresponding Secretary—Mrs. Allen G. Gibbs, Oklahoma City, Oklahoma.
Treasurer—Mrs. K. W. Cosgrove, Little Rock, Arkansas.
Historian—Mrs. W. W. Crawford, Hattiesburg, Mississippi.
Parliamentarian—Mrs. Gordon Ira, Jacksonville, Florida.

Wednesday, November 22, 8:00 a. m.

The Executive Board of the Woman's Auxiliary to the Southern Medical Association met at breakfast in the Georgian Room of the Peabody Hotel, Memphis, Tennessee, the Southern Medical Association being host. The President, Mrs. W. K. West, Oklahoma City, Oklahoma, presided.

Minutes of the Post-Convention Board meeting at Oklahoma City were read and approved,

The President appointed Mrs. M. Pinson Neal, Columbia, Missouri, to act as Parliamentarian, in the absence of the regular Parliamentarian.

The President appointed the following Nominating Committee: Mrs. W. W. Crawford, Hattiesburg, Mississippi, Chairman; Mrs. H. E. Christenberry, Knoxville, Tennessee; Mrs. Hugh Leslie Moore, Dallas, Texas; Mrs. August A. Werner, St. Louis, Missouri; and Mrs. Estes H. Hargis, Birmingham, Alabama.

The Treasurer, Mrs. K. W. Cosgrove, gave her report showing a balance of $176.52 in the checking account and $1,159.06 in the Jane Todd Crawford Fund. The report was referred to the Auditing Committee.

Mrs. Harvey F. Garrison, Jackson, Mississippi, Chairman of the Budget Committee, reported for her Committee with a suggested budget of $250.00. It was brought out in discussion that there was a need for the additional funds indicated by the Budget Committee. The President appointed a Committee composed of Mrs. Charles E. Oates, North Little Rock, Arkansas; Mrs. Charles W. Garrison, Little Rock, Arkansas; and Mrs. Harvey F. Garrison, Jackson, Mississippi, to confer with Mr. C. P. Loranz, Secretary-Manager of the Southern Medical Association, and see if the Association would not increase its appropriation to the Auxiliary from $200.00 to $250.00.

Mrs. Arthur T. McCormack, Louisville, Kentucky, Chairman of the Special Committee on the Jane Todd Crawford Fund, reported for her Committee.

The President appointed the following Auditing Committee: Mrs. R. H. Clark, Hattiesburg, Mississippi; Mrs. W. A. Ruch, Memphis, Tennessee; and Mrs. R. K. Hollingsworth, Washington, D. C.

The Secretary was instructed to send messages of greetings to Mrs. Oliver W. Hill, Knoxville, Tennessee; Mrs. J. Bonar White, Atlanta, Georgia; and Mrs. P. E. Blackerby, Louisville, Kentucky.

The Executive Board meeting then adjourned.

Wednesday, November 22, 10:00 a. m.

The sixteenth annual meeting of the Woman's Auxiliary to the Southern Medical Association was held in Room 200, Peabody Hotel, Memphis, Tennessee, and was called to order by the President, Mrs. W. K. West, Oklahoma City, Oklahoma, who presided.

Rev. William Gary, Rector, Grace Episcopal Church, Memphis, Tennessee, delivered the invocation.

Mrs. Willis C. Campbell, Memphis, General Chairman for Women's Entertainment, gave an Address of Welcome, which was responded to by Mrs. Harry V. Thomas, Clarksburg, West Virginia.

Greetings were brought from the Woman's Auxiliary to the Memphis and Shelby County Medical Society by Mrs. Walter A. Ruch, Memphis, President, and from the Woman's Auxiliary to the Tennessee State Medical Association by Mrs. W. T. Braun, Memphis, President-Elect.

Greetings were brought from the Advisory Committee of the Southern Medical Association by Dr. Edgar G. Ballenger, Chairman, Atlanta, Georgia, and Mr. C. P. Loranz, Secretary-Manager, Birmingham, Alabama. And also by Dr. Arthur T. McCormack, President-Elect, Louisville, Kentucky, incoming member of the Committee.

The President, Mrs. West, presented Mrs. V. E. Holcombe, Charleston, West Virginia, President-Elect of the Woman's Auxiliary to the American Medical Association, and Mrs. Charles P. Corn, Greenville, South Carolina, President-Elect of the Woman's Auxiliary to the Southern Medical Association.

Mrs. Arthur A. Herold, Shreveport, Louisiana, Chairman of the Legislative Committee of the Woman's Auxiliary to the American Medical Association, told of pending legislation of interest to the medical profession.

Members of the Council of the Woman's Auxiliary to the Southern Medical Association were presented from the following states: Alabama, Arkansas, Kentucky, Louisiana, Mississippi, Missouri, Tennessee, Texas and Virginia. The Presidents of state auxiliaries were presented from Alabama, Arkansas, Georgia and West Virginia.

Mrs. Eustace A. Allen, Chairman of the Memorial Committee, Atlanta, Georgia, conducted the In Memoriam Service, assisted by Mrs. Charles D. Blassingame, Mrs. D. C. McCool, Mrs. Louis Boyd and Mrs. Clyde V. Croswell, all of Memphis.

The meeting then adjourned.

Wednesday, November 22, 12:30 noon

The annual luncheon of the Woman's Auxiliary was held in Skyway, Peabody Hotel, the President, Mrs. W. K. West, presiding.

Roll call showed five past presidents, nine members of the Council and seven officers and committee chairmen present.

In a Parade of States, each recounting an outstanding contribution made by her state to our country, the following responded: Alabama—Mrs. J. Ullman Reaves, Mobile; Arkansas—Mrs. C. E. Kitchens, DeQueen; Georgia—Mrs. John W. Turner, Alanta; Kentucky—Mrs. Samuel H. Flowers, Middlesboro; Louisiana—Mrs. Wiley R. Buffington, New Orleans; Mississippi—Mrs. W. H. Anderson, Booneville; Missouri—Mrs. B. Y. Alvis, St. Louis; South Carolina—Mrs. J. W. Bell, Walhalla; Tennessee—Mrs. H. E. Christenberry, Knoxville; Texas—Mrs. Edward W. Coyle, San Antonio; Virginia—Mrs. E. Latane Flanagan, Richmond; and West Virginia—Mrs. R. H. Walker, Charleston.

The President, Mrs. West, presented Mrs. Walter A. Ruch, Memphis, Tennessee, President, Woman's Auxiliary to the Memphis and Shelby County Medical Society; Mrs. Charles P. Corn, Greenville, South Carolina, President-Elect, Woman's Auxiliary to the Southern Medical Association; and Mrs. V. E. Holcombe, Charleston, West Virginia, President-Elect, Woman's Auxiliary to the American Medical Association.

The luncheon session then adjourned.

Thursday, November 23, 9:30 a. m.

The concluding session of the annual meeting of the Woman's Auxiliary to the Southern Medical Association was held in Room 214, Peabody Hotel, Memphis, Tennessee, the President, Mrs. W. K. West, presiding.

The minutes of the first session were read and approved.

The Chairman of the Committee on Credentials and Registration, Mrs. Wm. T. Braun, reported a total registration of 447, with 26 states, the District of Columbia and Hawaii represented.

The President, Mrs. W. K. West, gave her annual report, which was accepted with a rising vote of thanks.

Reports of the following officers and Committee Chairmen were presented: President-Elect, Mrs. Charles P. Corn; Second Vice-President, Mrs. Olin S. Cofer; Historian, Mrs. W. W. Crawford; and Corresponding Secretary, Mrs. Allen G. Gibbs.

The Chairman of the Auditing Committee, Mrs. R. H. Clark, Hattiesburg, Mississippi, reported that they had examined and found correct the report of the Treasurer.

The Committee to confer with Mr. C. P. Loranz, Secretary-Manager, Southern Medical Association, reported that the Association would increase its appropriation to the Auxiliary from $200.00 to $250.00 as requested.

Reports were received and approved from the following Committees: Budget; Custodian of Records; Memorial; Research and Romance of Medicine; and Jane Todd Crawford.

Members of the Council from the following states reported: Alabama, Arkansas, Georgia, Kentucky, Louisiana, Mississippi, Missouri, Tennessee, Texas, Virginia and West Virginia.

The President, Mrs. West, announced that the Special Committee on the Jane Todd Crawford Memorial, with Mrs. A. T. McCormack, Chairman, would be continued for another year.

Courtesy resolutions presented by the Chairman, Mrs. August A. Werner, St. Louis, Missouri, were adopted by a rising vote.

The Nominating Committee presented their report, the Secretary being instructed to cast the unanimous vote for the nominees (all are Members of the Executive Board):

President—Mrs. Charles P. Corn, Greenville, South Carolina.
President-Elect—Mrs. M. Pinson Neal, Columbia, Missouri.
First Vice-President—Mrs. L. S. Thompson, Dallas, Texas.
Second Vice-President—Mrs. Eustace A. Allen, Atlanta, Georgia.
Recording Secretary—Mrs. H. V. Thomas, Clarksburg, West Virginia.
Corresponding Secretary—Mrs. J. W. Bell, Walhalla, South Carolina.
Treasurer—Mrs. K. W. Cosgrove, Little Rock, Arkansas.
Historian—Mrs. W. T. Braun, Memphis, Tennessee.
Parliamentarian—Mrs. W. H. Anderson, Booneville, Mississippi.

The newly elected officers were installed by Mrs. Hugh Leslie Moore, Dallas, Texas. The retiring President, Mrs. W. K. West, then presented the gavel to the incoming President, Mrs. Charles P. Corn, Greenville, South Carolina, who gave her Inaugural Address.

The annual meeting of the Auxiliary adjourned to meet in Louisville, Kentucky, November 12-15, 1940.

Thursday, November 23

The Executive Board of the Woman's Auxiliary to the Southern Medical Association met at the Peabody Hotel, the President, Mrs. Charles P. Corn, Greenville, South Carolina, presiding.

The President, Mrs. Charles P. Corn, announced the appointment of Chairmen of Standing Committees and members of the Council for Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia. The President also announced the appointment of Mrs. August A. Werner, St. Louis, member of the Council from Missouri, to fill the unexpired term of Mrs. M. Pinson Neal, Columbia, who had just been elected President-Elect.

The Executive Board meeting then adjourned.

CHAIRMEN OF STANDING COMMITTEES, Woman's Auxiliary to the Southern Medical Association
(All are Members of the Executive Board)

Custodian of Records—Mrs. Stephen C. McCoy, Louisville, Kentucky.
Research—Mrs. Hugh Leslie Moore, Dallas, Texas.
Memorial—Mrs. J. Ullman Reaves, Mobile, Alabama.
Resolutions—Mrs. Joseph A. Elliott, Charlotte, North Carolina.
Jane Todd Crawford—Mrs. Luther Bach, Bellevue, Kentucky.
Budget—Mrs. William Hibbitts, Texarkana, Arkansas.

COUNCIL, Woman's Auxiliary to the Southern Medical Association
(All are Members of the Executive Board)

Expire 1940—
Alabama—Mrs. L. W. Roe, Mobile.
Arkansas—Mrs. S. A. Collom, Jr., Texarkana.
District of Columbia—Mrs. A. Barnes Hooe, Washington.
Florida—Mrs. E. W. Veal, South Jacksonville.
Georgia—Mrs. L. W. Williams, Savannah.

Expire 1941—
Kentucky—Mrs. John M. Blades, Butler.
Louisiana—Mrs. Wiley R. Buffington, New Orleans.
Maryland—
Mississippi—Mrs. R. H. Clark, Hattiesburg.
Missouri—Mrs. August A. Werner, St. Louis.
North Carolina—Mrs. J. Buren Sidbury, Wilmington.

Expire 1942—
Oklahoma—Mrs. G. H. Garrison, Oklahoma City.
South Carolina—Mrs. C. C. Ariail, Greenville.
Tennessee—Mrs. H. E. Christenberry, Knoxville.
Texas—Mrs. Frank N. Haggard, San Antonio.
Virginia—Mrs. Hawes Campbell, Venter.
West Virginia—Mrs. R. H. Walker, Charleston.

PAST PRESIDENTS, Woman's Auxiliary to the Southern Medical Association
(All are Members of the Executive Board)

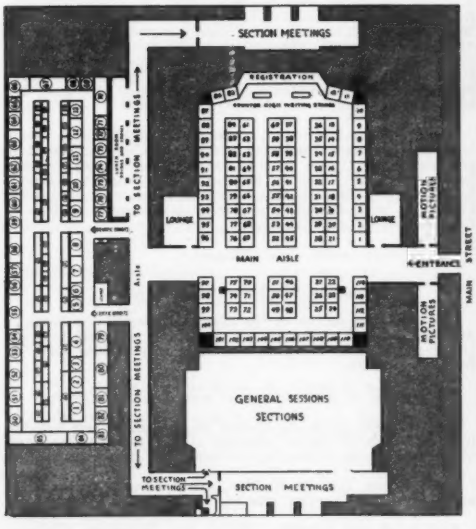
1925, Mrs. E. H. Cary, Dallas, Texas.
1926, Mrs. D. J. Williams, Gulfport, Mississippi.
1927, Mrs. Oscar M. Marchman, Dallas, Texas.
1928, Mrs. Arthur T. McCormack, Louisville, Kentucky.
1929, Mrs. C. W. Garrison, Little Rock, Arkansas.
1930, Mrs. James N. Brawner, Atlanta, Georgia.
1931, Mrs. S. A. Collom, Sr., Texarkana, Texas.
1932, Mrs. Chas. E. Oates, North Little Rock, Arkansas.
1933, Mrs. Arthur A. Herold, Shreveport, Louisiana.
1934, Mrs. Southgate Leigh, Norfolk, Virginia.
1935, Mrs. J. Bonar White, Atlanta, Georgia.
1936, Mrs. Oliver W. Hill, Knoxville, Tennessee.
1937, Mrs. Frank N. Haggard, San Antonio, Texas.
1938, Mrs. Luther Bach, Bellevue, Kentucky.
1939, Mrs. W. K. West, Oklahoma City, Oklahoma.

TECHNICAL EXHIBITS

The following are the business firms who had exhibits at the Memphis meeting:

	Space No.
Agfa Ansco Corporation, Binghamton, N. Y.	91– 92
Aloe Company, A. S., St. Louis, Mo.	76-77-78-79
American Optical Company, Southbridge, Mass.	4– 5
Appleton-Century Company, D., New York, N. Y.	39
Arlington Chemical Company, Yonkers, N. Y.	15
Armour Laboratories, The, Chicago, Ill.	112
Bard-Parker Company, Inc., Danbury, Conn.	63
Baum Company, Inc., W. A., New York, N. Y.	3
Bausch & Lomb Optical Company, Rochester, N. Y.	87
Becton, Dickinson & Company, Rutherford, N. J.	18
Bilhuber-Knoll Corporation, Orange, N. J.	28– 29
Borden Company, Inc., The, New York, N. Y.	84
Carnation Company, Oconomowoc, Wis.	13– 14
Ciba Pharmaceutical Products, Inc., Summit, N. J.	80– 81
Clapp, Inc., Harold H., Rochester, N. Y.	8– 9
Davies, Rose & Company, Boston, Mass.	85
Davis & Geck, Inc., Brooklyn, N. Y.	48
Doak Company, The, Cleveland, Ohio	100
Eastman Kodak Company, Rochester, N. Y.	26– 27
Foregger Company, The, New York, N. Y.	17
General Electric X-Ray Corporation, Chicago, Ill.	57-58-59-60
Gilliland Laboratories, Inc., The, Marietta, Pa.	99
Gradwohl Laboratories, St. Louis, Mo.	102
Heinz Company, H. J., Pittsburgh, Pa.	30
Hoffmann-La Roche, Inc., Nutley, N. J.	50– 51
Horlick's Malted Milk Corporation, Racine, Wis.	109
Hynson, Westcott & Dunning, Inc., Baltimore, Md.	37– 38
Johnson & Johnson, New Brunswick, N. J.	113-114
Kalak Water Co. of New York, Inc., New York, N. Y.	111
Kay Surgical, Inc., Memphis, Tenn.	110
Kelley-Koett Mfg. Co., Inc., Covington, Ky.	66– 67
Knox Gelatine Company, Chas. B., Johnstown, N. Y.	61– 62
Lea & Febiger, Philadelphia, Pa.	64
Lederle Laboratories, Inc., New York, N. Y.	24
Lilly & Company, Eli, Indianapolis, Ind.	40-41-42-43-44-45
Lippincott Company, J. B., Philadelphia, Pa.	73
M and R Dietetic Laboratories, Inc., Columbus, Ohio	68– 69
Majors Company, J. A., New Orleans, La., and Dallas, Texas	2
Mallinckrodt Chemical Works, St. Louis, Mo.	12
Mead Johnson & Company, Evansville, Ind.	70-71-72
Medical Bureau, The, Chicago, Ill.	65
Mellin's Food Company, Boston, Mass.	25
Mercere, Inc., E. L., Memphis, Tenn.	101
Merck & Company, Inc., Rahway, N. J.	103–104
Merrell Company, The Wm. S., Cincinnati, Ohio	32– 33
Mosby Company, C. V., St. Louis, Mo.	49
Parke, Davis & Company, Detroit, Mich.	52-53-54-55-56
Petrolagar Laboratories, Inc., Chicago, Ill.	22– 23
Prior Company, Inc., W. F., Hagerstown, Md.	34
Puritan Compressed Gas Corporation, Kansas City, Mo.	106
S. M. A. Corporation, Chicago, Ill.	74– 75
Sanborn Company, Cambridge, Mass.	105
Sandoz Chemical Works, Inc., New York, N. Y.	88– 89
Saunders Co., W. B., Philadelphia, Pa.	1
Schering Corporation, Bloomfield, N. J.	16
Searle & Company, G. D., Chicago, Ill.	107-108
Sharp & Dohme, Philadelphia, Pa.	93-94-95-96
Spencer Lens Company, Buffalo, N. Y.	6– 7
Squibb & Sons, E. R., New York, N. Y.	19-20-21
Stearns & Company, Frederick, Detroit, Mich.	46– 47
Taylor Instrument Companies, Rochester, N. Y.	10
Vegex, Inc., New York, N. Y.	11
Westinghouse X-Ray Co., Inc., Long Island City, N. Y.	82– 83
White Laboratories, Inc., Newark, N. J.	86
Williams & Wilkins Company, The, Baltimore, Md.	90
Winthrop Chemical Company, New York, N. Y.	97– 98
Wisconsin Alumni Research Foundation, Madison, Wis.	31
Wyeth & Brother, Inc., John, Philadelphia, Pa.	35– 36

EXHIBIT DIAGRAM, MEMPHIS MEETING



Scientific and Technical Exhibits—Scientific Exhibits to left, Space Numbers 1 to 85 (in circles); and Technical Exhibits in center, Space Numbers 1 to 114.

DOCTOR!

You are cordially invited to attend the

55th ANNUAL CONVENTION

of the

MID-SOUTH POST GRADUATE MEDICAL ASSEMBLY

at

HOTEL PEABODY, MEMPHIS, TENN.

February 13-14-15-16, 1940

READ THIS LIST OF THOSE WHO WILL DELIVER ADDRESSES AND MAKE YOUR HOTEL RESERVATIONS AT ONCE.

Dr. Waltman Walters—Surgery
Rochester, Minn.
Dr. C. Gordon Heyd—Surgery
New York, N. Y.
Dr. Richard B. Cattell—Surgery
Boston, Mass.
Dr. Perrin H. Long—Medicine
Baltimore, Md.
Dr. R. M. Wilder—Medicine
Rochester, Minn.
Dr. L. S. Kubie—Psychiatry
New York, N. Y.
Dr. Lay Martin—Medicine
Baltimore, Md.
Dr. W. R. Cooke—Obstetrics
Galveston, Texas
Dr. Quitman U. Newell—Gynecology
St. Louis, Mo.
Dr. R. G. Torrey—Medicine
Philadelphia, Penn.
Dr. Frederick H. Falls—Obstetrics
Chicago, Ill.
Dr. Henry B. Orton—Otolaryngology
Newark, N. J.

Dr. Albert D. Kaiser—Pediatrics
Rochester, N. Y.
Dr. George G. Smith—Urology
Boston, Mass.
Dr. Ralph M. Tyson—Pediatrics
Philadelphia, Penn.
Dr. D. T. Vail, Jr.—Ophthalmology
Cincinnati, Ohio
Dr. Henry W. Cave—Surgery
New York, N. Y.
Dr. Henry M. Goodyear—Otolaryngology
Cincinnati, Ohio
Dr. H. Earle Conwell—Orthopedics
Birmingham, Ala.
Dr. W. S. Middleton—Medicine
Madison, Wis.
Dr. F. G. Blake—Medicine
New Haven, Conn.
Dr. Reginald Fitz—Medicine
Boston, Mass.
Dr. Maurice B. Visscher—Physiology
Minneapolis, Minn.
Dr. Roy W. Scott—Medicine
Cleveland, Ohio

Programs will be mailed February 1st. Write for one if you do not receive yours.

DR. A. F. COOPER, Secretary-Treasurer

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POSTGRADUATE instruction in all branches of medicine is offered to graduate physicians.

Review Courses in medicine, in surgery and in gynecology and obstetrics begin January 8, 1940, and continue through March 30, 1940. Three courses of four weeks each are offered in each branch.

A special course in surgical technic will begin January 8, 1940.

A special course in gynecological surgery will be offered beginning January 8, 1940.

A special course in otolaryngology (anatomy, histology, pathology, etc.), lasting six weeks, will begin March 11, 1940.

For detailed information write

Director

DEPARTMENT OF GRADUATE MEDICAL STUDIES

1430 Tulane Avenue, New Orleans, La.

Post-Graduate Course in Ophthalmology

The George Washington University School of Medicine, Washington, D. C.

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Intensive Course in Ophthalmology

March 25-30, 1940, Inclusive

GUEST LECTURERS: Drs. A. Bielschowsky, Wiley R. Buffington, Grady E. Clay, Harry S. Gradle, Daniel B. Kirby, Peter Kronfeld, Ralph I. Lloyd, S. Hanford McKee, C. S. O'Brien, Avery DeH. Prangen, Bernard Samuels, Albert C. Snell, Edmund B. Spaeth, Georgiana Dvorak Theobald, Phillips Thygeson, Robert Von der Heydt, and Mr. Scott Sterling.

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Aviation Ophthalmology and Aviation Medicine—April 1-6, 1940, Inclusive

An intensive course covering the field of Aviation medicine given by officers in the medical corps of the Army, Navy and Civil Aeronautics Authority. Brochure on request. FEE $40.00

Practical Course—March 19-23, 1940, Inc.

on OCULAR SURGERY, PATHOLOGY AND ORTHOPTICS, limited to 25 participants. FEE $100.00

Interviews regarding the Board Examinations will be given by members of the American Board of Ophthalmology to those registered for any of the three courses.

If you desire a copy of the 1939 Proceedings of the Intensive Course, permanently bound, send in your check for $16.00 made out to The George Washington University.

For further details of above courses apply to the Secretary, Miss Louisa G. Wells, 927 17th Street, N.W., Washington, D. C.

Continued from page 93

Deaths

Dr. William M. Moore, Pine Bluff, aged 56, died September 15.

Dr. Edwin Thomas Brown, Marvell, aged 58, died October 28 of a heart attack.

Dr. Alexander Crump Kirby, Little Rock, aged 47, died November 4 of a heart attack.

Dr. Frank O. Rogers, Little Rock, aged 63, died November 8.

DISTRICT OF COLUMBIA

Dr. Oscar B. Hunter, Washington, has been appointed a member of the Council of the Southern Medical Association from the District of Columbia for a regular Council term of five years, the appointment having been announced recently by the President, Dr. Arthur T. McCormack, Louisville, Kentucky. Dr. Hunter succeeds Dr. William Thornwall Davis, Washington, who, having served the constitutional limit, was not eligible for reappointment.

Dr. Harry Stack Sullivan, Washington, formerly of New York, has been appointed Professor of Psychiatry and Director of the Department of Psychiatry and Neurology, Georgetown University School of Medicine, to succeed the late Dr. D. Percy Hickling, who was for more than forty years a member of the faculty of Georgetown University.

Dr. Nathan N. Smiler, Washington, has been appointed as Alternate Delegate to the U. S. Pharmacopeial Convention in May, 1940.

Dr. Eugene W. Higgins, Washington, has been appointed Chairman of the Health and Sanitation Committee of the American University Park Citizens' Association to serve for the coming year.

Dr. George Tolstoi, Washington, and Miss Lenore Oslander, Uniontown, Pennsylvania, were married September 10.

Deaths

Dr. L. Walter McKenzie, Washington, aged 61, died September 20 of coronary occlusion and arteriosclerosis.

Dr. Richard Edward Banks, Washington, aged 50, died October 16 of cerebral hemorrhage.

FLORIDA

The Pinellas County Medical Society has elected the following officers for the coming year: President, Dr. John A. Herring, St. Petersburg; President-Elect, Dr. N. W. Gable, Jr., St. Petersburg; First Vice-President, Dr. M. A. Nickle, Clearwater; Second Vice-President, Dr. H. D. Solomon, St. Petersburg; Secretary-Treasurer, Dr. W. C. McConnell, St. Petersburg.

The Leon-Gadsden-Liberty-Wakulla-Jefferson County Medical Society has elected the following officers for the coming year: President, Dr. F. T. Holland, Tallahassee; Vice-President, Dr. Ralph E. Stevens, Chattahoochee; Secretary, Dr. B. A. Wilkinson, Tallahassee.

Dr. Gordon McSwain, Arcadia, was recently elected President of the Arcadia Kiwanis Club.

Dr. F. S. Whitman, West Palm Beach, has returned from New York City, where he recently took a six weeks' course in radiology and cardiography.

Dr. Bessie S. French, Miami, recently did postgraduate work in anesthesia and cardiology at the Cook County Graduate School of Medicine in Chicago.

Dr. Leroy Oetjen, Leesburg, was recently elected President of the Leesburg Kiwanis Club.

Dr. L. W. Glatzau, Daytona Beach, recently took postgraduate work at Cook County Hospital in Chicago in otolaryngology.

Dr. J. C. Robertson, Chattahoochee, has recently opened offices at Vero Beach for the practice of medicine.

Dr. Frank L. Quillman has resigned his position as County Physician in Orange County and opened an office in St. Cloud for the practice of medicine.

Dr. Marshall Faver, Miami, recently took postgraduate work in ophthalmology at the Chicago Eye, Ear, Nose and Throat College in Chicago.

Dr. James A. Bradley and Mrs. Evelyn Neuling, both of St. Petersburg, were married October 1.

Dr. Peter A. Drohomer, Daytona Beach, and Miss Harriett Perry Coley, Palatka, were married October 24.

Deaths

Dr. David Ralph Bowen, St. Petersburg, aged 67, died September 6.

Dr. Charles Emanuel E. Pannaci, Coral Gables, aged 61, died September 1.

Continued on page 36

ANNOUNCING

THE FOURTH ANNUAL MEETING OF THE

NEW ORLEANS GRADUATE MEDICAL ASSEMBLY

Honoring

DR. RUDOLPH MATAS

February 26, 27, 28, 29, 1940

ROOSEVELT HOTEL, Conference Headquarters

HONOR GUESTS

Dr. Francis M. Rackemann, Boston	Allergy
Dr. Henry E. Michelson, Minneapolis	Dermatology
Dr. David P. Barr, St. Louis	Endocrinology
Dr. Henry L. Bockus, Philadelphia	Gastro-enterology
Dr. Quitman U. Newell, St. Louis	Gynecology
Dr. James S. McLester, Birmingham	Medicine
Dr. Fred M. Smith, Iowa City	Medicine
Dr. Henry W. Woltman, Rochester	Neuropsychiatry
Dr. William J. Dieckmann, Chicago	Obstetrics
Dr. Arthur J. Bedell, Albany	Ophthalmology
Dr. M. N. Smith-Peterson, Boston	Orthopedics
Dr. William Mithoefer, Cincinnati	Otolaryngology
Dr. Shields Warren, Boston	Pathology
Dr. John A. Toomey, Cleveland	Pediatrics
Dr. Donald S. Childs, Syracuse	Radiology
Dr. Vilray P. Blair, St. Louis	Plastic Surgery
Dr. Eldridge L. Eliason, Philadelphia	Surgery
Dr. William F. Braasch, Rochester	Urology

AND

on Friday, March 1, the Assembly will conduct clinics in the hospitals of New Orleans in medicine, surgery and allied specialties.

Registration Fee of $10.00 covers all features, including four round table luncheons and reception.

For further information, write the Secretary, Room 105, 1430 Tulane Avenue, New Orleans.

School of Ophthalmology and Otolaryngology

New York Eye and Ear Infirmary

POST GRADUATE WEEK—March 18 to March 23, Inclusive

Clinical and Practical Demonstrations and Lectures in various phases of Ophthalmology and Otolaryngology. Intra-ocular operations on animal eyes, cadaver demonstrations of the Mastoid operation, demonstration of Bronchoscopy on animals—given by the faculty of the School.

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Continued from page 34

GEORGIA

The Atlanta Graduate Medical Assembly, third annual meeting, will be held at Atlanta, January 15-19, at the Biltmore Hotel. There will be clinical sessions and presentations by outstanding clinicians and teachers from leading medical centers of the country.

Dr. Marion C. Pruitt, Atlanta, has been appointed a member of the Council of the Southern Medical Association from Georgia for a regular Council term of five years, the appointment having been announced recently by the President, Dr. Arthur T. McCormack, Louisville, Kentucky. Dr. Pruitt succeeds Dr. Edgar G. Ballenger, Atlanta, who, having served the constitutional limit, was not eligible for reappointment.

The Georgia Industrial Surgeons' Association has elected the following officers for the coming year: President, Dr. Robert L. Rhodes, Augusta; Vice-President, Dr. Richard E. Newberry, Atlanta; Secretary, Dr. John W. Simmons, Brunswick.

Dr. Robert C. Pendergrass, Americus, has been appointed Director of a newly organized cancer clinic in that city.

Dr. Jack R. McMichael, Quitman, has recently been appointed a member of the State Board of Health.

Dr. Clarence L. Ayers, Toccoa, has recently been appointed a member of the State Board of Health for a six-year term.

Dr. E. C. Herman and Dr. J. S. Holder, both of LaGrange, have been elected to fellowship in the American College of Surgeons.

Dr. Claude Griffin, Atlanta, has been elected Chairman of the State Board of Medical Examiners.

The Piedmont Hospital Medical Staff, Atlanta, has elected the following officers for the coming year: President, Dr. T. L. Tidmore; Vice-President, Dr. Guy C. Hewell; Secretary, Dr. William R. Minnich, all of Atlanta.

DEATHS

Dr. James M. Erwin, Calhoun, aged 75, died October 19 of injuries received when struck by an automobile.

Dr. James Wilson Cowart, Walden, aged 69, died October 11 of aplastic anemia.

Dr. William Orlando Durham, Maxeys, aged 70, died October 5 of cerebral thrombosis, arteriosclerosis and hypertension.

Continued on page 38

THE NEW YORK POLYCLINIC

MEDICAL SCHOOL AND HOSPITAL

(ORGANIZED 1881)

(The Pioneer Post-Graduate Medical Institution in America)

Obstetrics and Gynecology

A full time course. In Obstetrics: Lectures; prenatal clinics; witnessing normal and operative deliveries; operative obstetrics (manikin). In Gynecology: Lectures; touch clinics; witnessing operations; examination of patients pre-operatively; follow-up in wards post-operatively. Obstetrical and Gynecological pathology; regional anesthesia (cadaver). Attendance at conferences in Obstetrics and Gynecology. Operative Gynecology on the Cadaver.

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and ALLIED SUBJECTS

FOR INFORMATION ADDRESS

MEDICAL EXECUTIVE OFFICER, 345 West 50th Street, NEW YORK CITY

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(See back of this page)

Excerpt from the Medical Literature . . . .

". . . In lesions of the urinary tract, the cystoscopic examination together with a detailed roentgen study are necessary procedures. A correlation of the findings thus ascertained minimizes the possibility of error.

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"There are many cases where a diagnosis without the aid of a roentgen examination is impossible. Radiographic findings frequently supplement or confirm the data acquired by the urologist. Given the various reports, and correlating them in the proper manner, we can be assured few cases will be missed."

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The obvious excellence of the original radiograph reproduced on the reverse side of this page is due, first, to the knowledge of the radiologist; second, to the inherent qualities of Eastman Ultra-Speed X-ray Film.

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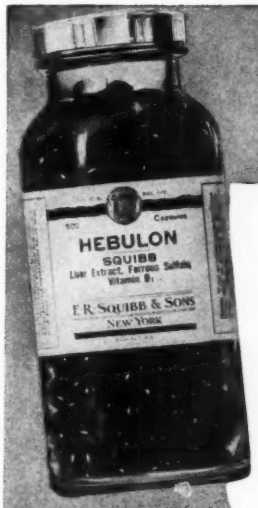
(*See reverse side of this page*)



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5 ADVANTAGES

1. **Convenience**—Hebulon comes in soft, easy-to-swallow gelatin capsules.
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3. **Stable**—Biological assay of capsules, stored for 18 months, has shown that they retain their full labelled content of vitamin B_1.
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2. Chlorosis (anemia of adolescence).
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4. Post-operative anemia or anemias due to blood loss, such as may be associated with uterine bleeding, hemorrhoids, peptic ulcer.
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MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858

Continued from page 36

Dr. W. K Burnett, Winston, aged 70, died September 19 of myocarditis.

KENTUCKY

Dr. Arthur T. McCormack, Louisville, State Health Commissioner, was elected a Director of the International Society of Medical Health Officers at the recent meeting held in Pittsburgh in conjunction with the annual convention of American Public Health Associations.

DEATHS

Dr. James A. Sparks, Ashland, aged 63, died September 27 of coronary occlusion.

Dr. John Gunnell Talbot, Burkesville, aged 67, died September 30.

Dr. John Creton Gambill, Ashland, aged 54, died September 24 of coronary sclerosis.

Dr. John William Barnhill, Owensboro, aged 77, died September 11.

Dr. Lot Richard Henry, North Middletown, aged 65, died October 9 of coronary occlusion, mitral stenosis and hypertension.

Dr. Eugene Carl Roemele, Frankfort, aged 62, died October 14 of angina pectoris.

Dr. George Elias Boulos, Hazard, aged 36, died October 20.

Dr. Mozo West Hurt, Mayfield, aged 54, died October 6 of cerebral embolism.

Dr. Harry J. Phillips, Louisville, aged 67, died October 10 of a streptococcic infection.

Dr. Clarence Gilliam Reno, Summit, aged 66, died October 5.

LOUISIANA

The New Orleans Graduate Medical Assembly will hold its fourth annual assembly at the Roosevelt Hotel, February 26-29, 1940, honoring Dr. Rudolph Matas, Emeritus Professor of General and Clinical Surgery, Tulane University School of Medicine. Dr. Matas, nationally and internationally known for his work in the field of vascular surgery, will be given a reception on the opening night of the assembly as a tribute to his sixtieth year in active practice. The registration fee of $10.00 covers all clinics, daily round table luncheons, and the entertainment.

Dr. Thomas Benton Sellers, New Orleans, was elected President of the Central Association of Obstetricians and Gynecologists at the recent meeting of the Association in Kansas City for the year 1941.

Dr. W. H. Perkins, New Orleans, was elected Vice-President of the Southern Tuberculosis Conference for 1939-40.

Dr. Albert E. Casey, New Orleans, has been elected to active membership in the American Association of University Professors.

Dr. Rupert E. Arnell, New Orleans, has been informed of his appointment to the Louisiana Planning Committee of the White House Conference on Children in a Democracy.

Dr. Rawley M. Penick, Dr. Samuel A. Romano and Dr. John L. Keeley, all of Louisiana State University, New Orleans, have been certified by the American Board of Surgery.

DEATH

Dr. Malcolm L. Samms, New Orleans, aged 62, died October 30 of heart disease.

MARYLAND

Dr. George W. Corner, formerly of the University of Rochester School of Medicine, Rochester, New York, has been appointed Director of the Department of Embryology of the Carnegie Institution of Washington, effective May 1, 1940. The Carnegie Laboratory of Embryology is located in Baltimore.

Dr. Samuel J. Crowe, adjunct Professor of Laryngology and Otology, Johns Hopkins University School of Medicine, Baltimore, and his staff, in collaboration with the City Departments of Education and Health, will study a selected group of school children to detect impaired hearing.

Dr. Nathan J. Davidov and Miss Elsie Zerwitz, both of Baltimore, were married September 27.

DEATHS

Dr. Milford Levy, Baltimore, aged 47, died October 10 of rheumatic cardiovascular disease and aortic stenosis.

Continued on page 40

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For many centuries bile has been used in the treatment of a variety of nondescript conditions. At the beginning of this century the use of "bile salts" in small therapeutic doses came into vogue, though comparatively little was known of their toxicity and pharmacodynamic action. In 1922 the first pharmacologic report on Decholin (dehydrocholic acid) appeared, placing bile acid and bile salt therapy on a scientific basis. Since then several hundred papers have confirmed and extended our knowledge of the clinical efficacy of Decholin in hepatic and biliary tract disorders.

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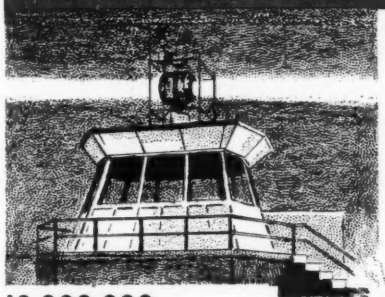

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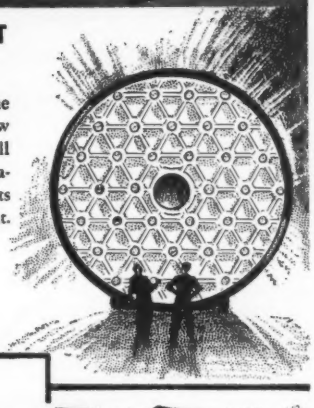

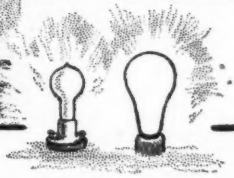

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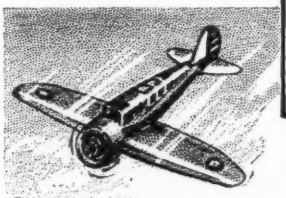

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Council

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BOUND BROOK Calco NEW JERSEY

Continued from page 38

Dr. Harry Roland Lickle, Baltimore, aged 50, died September 13 of cerebral hemorrhage.

Dr. Granville E. Dickinson, Upper Fairmount, aged 87, died October 14 of acute dilatation of the heart.

MISSISSIPPI

A new building for the Lauderdale County Health Department was recently dedicated in Meridian. It will serve as a public health personnel training center. Dr. Norris C. Knight is Director of the County Health Department.

Dr. Robert H. Bostwick, Jr., Indianola, has been appointed Director of the Union County Health Department, succeeding Dr. Edwin M. Butler, Liberty, who plans to enter private practice.

Dr. James P. Ward, Charleston, Director of the Tallahatchie County Health Department, has been appointed Director of the Washington County Health Department, effective October 15, succeeding Dr. Benjamin F. Hand, Jr., who resigned to engage in private practice in Greenville.

Dr. Everett W. Ryan, Canton, formerly Director of the Madison County Health Unit, is being transferred to Charleston to direct the Tallahatchie Department.

The following Mississippi physicians were admitted to fellowship of the American College of Surgeons at the Clinical Congress in Philadelphia recently: Dr. A. Dabney Hurt, Corinth; Dr. James W. Lipscomb, Jr., Jackson; Dr. Cummings H. McCall, Gulfport; Dr. Guy Payne Sanderson, Vicksburg; Dr. Clyde M. Speck, New Albany; Dr. Richard A. Street, Jr., Vicksburg; and Dr. M. Brister Ware, Jackson.

Dr. Samuel Eugene Field, Centreville, and Miss Mildred Ruoff, Jackson, were married October 27.

DEATHS

Dr. Claude Clegg, Clarksdale, aged 50, died September 27 of heart disease.

Dr. William E. Jinkins, Charleston, aged 73, died September 28.

MISSOURI

Dr. William W. Graves, Professor and Director of the Department of Neuropsychiatry, St. Louis University School of Medicine, St. Louis, was recently presented a certificate of merit and a gold medal by the St. Louis Medical Society for work which "resulted in new approaches to the qualitative evaluation of inherited ariations in relation to the inherited qualities of human constitution, expressed in inherited predisposition to health or disease, and in inherited capacity for education, for adaptability, and for longevity."

Dr. Charles Wesley Burrill, Kansas City, said to be the oldest living member of the Jackson County Medical Society, was honored by friends October 21 in observance of his ninety-fourth birthday.

Dr. Henry H. Sweets, Jr., Louisville, Kentucky, has been appointed to the staff of the University of Missouri School of Medi-

Continued on page 42

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Practical postgraduate course in Ophthalmology and Otolaryngology.

Doctors admitted at any time for review and clinical observation.

OSCAR B. NUGENT, M.D., Director

Continued from page 40

cine, Columbia, to succeed Dr. James H. Peers, who recently resigned as Assistant Professor of Pathology.

Dr. C. E. Burford, St. Louis, Professor of Urology and Head of the Department of Urology at St. Louis University School of Medicine, and President-Elect of the Missouri Medical Association, recently was the guest speaker at the annual initiation banquet of the Missouri Chapter of Alpha Epsilon Delta, national honorary pre-medical fraternity.

DEATHS

Dr. Elmore Oscar Smith, Kansas City, aged 88, died September 28 of chronic myocarditis.

Dr. Benjamin Garleaf Benson, Webster Groves, aged 72, died October 8 of coronary occlusion and arteriosclerosis.

Dr. Eugene Frederick Hauck, Clayton, aged 82, died October 8 of pyelitis and heart disease.

Dr. Aloysius Robert Holdenried, Sappington, aged 38, died October 14 of pulmonary tuberculosis.

Dr. Mary Sophia Ross, Hannibal, aged 72, died October 5.

NORTH CAROLINA

The North Carolina State Medical Society will publish its own official journal beginning in January. It will be called the North Carolina Medical Journal. Dr. Wingate M. Johnson, Winston-Salem, has been named Editor, and Dr. Thomas W. M. Long, Roanoke Rapids, Secretary of the State Society, will be the Business Manager.

Dr. Joseph B. Greene, Asheville, was recently honored at a testimonial dinner following his retirement from active practice of nearly fifty years. Dr. Jere E. Cocke was toastmaster.

The University of North Carolina, Chapel Hill, will open a new Medical Laboratories Building as part of the University's Sesquicentennial Celebration.

DEATHS

Dr. Frank M. Register, Kinston, aged 69, died September 28 of intestinal obstruction and chronic myocarditis.

Dr. Carlyle Junius Edwards, Raleigh, aged 50, died September 30.

Dr. Frank L. Herman, Conover, aged 79, died October 28 of coronary thrombosis and arteriosclerosis.

Dr. James Da Costa Highsmith, Fayetteville, aged 49, died October 18 of coronary occlusion.

Dr. James Madison Godwin, High Point, aged 79, died October 13 of carcinoma of the mastoid.

OKLAHOMA

The Oklahoma Baptist Hospital Medical Staff has elected the following officers for the coming year: President, Dr. R. N. Holcombe; Vice-President, Dr. I. B. Oldham, Jr.; Secretary, Dr. S. D. Neely, all of Muskogee.

The Pawhuska City Hospital Medical Staff has elected the following officers for the coming year: President, Dr. Roscoe Walker; Vice-President, Dr. Divonis Worten; Secretary, Dr. George K. Hemphill.

Continued on page 44

To Assure Quick Dependable Response

Discriminating Physicians are Prescribing

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When Medical Authority Confirms Clinical Experience

CREOSOTE and guaiacol, according to the latest studies reported by Hruby*, certainly appear to have a definite clinical value in the treatment of cough and sputum. As asserted by this authority, they act on the bronchial secretion, diminish the amount of sputum and produce a change in its character —rendering it less purulent.

Indeed, the practical experience of thousands of physicians over many years confirms the positive usefulness of these medicinal agents together as a stimulating expectorant and bronchial sedative.

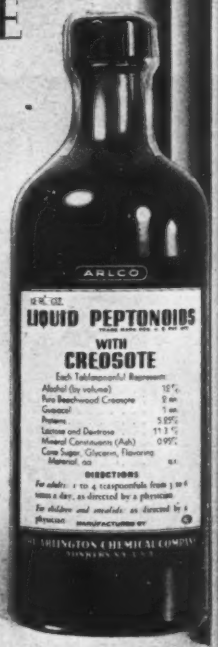
LIQUID PEPTONOIDS WITH CREOSOTE

is free from the objections to the use of creosote and guaiacol alone or as used in many other formulae—by virtue of the unique combination of these drugs with Liquid Peptonoids (pre-digested beef, milk and wheat). The burning, acrid and localized irritating effect of the creosote on mucous membranes is rendered bland and non-caustic. Each tablespoonful represents two minims of Beechwood creosote and one minim of guaiacol, free from narcotics.

Because of its superior efficacy and ready patient acceptance, Liquid Peptonoids with Creosote has found extensive employment in the relief of the painful unproductive cough of grippe, acute or chronic bronchitis, influenza or pulmonary tuberculosis.

Available: In bottles of 12 fluid ounces. **Dosage:** One to four teaspoonfuls every two or three hours until relieved.

*Reference on request.



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Continued from page 42

The State Health Commissioner has announced the appointments of the following new Superintendents of Health: Dr. William E. Seba, Leedey, Dewey County; Dr. Rudolph H. Duewall, Miami, Ottawa County; Dr. Leo R. Evans, Pryor, Mayes County; Dr. James T. McInnis, Muskogee, Muskogee County; Dr. O. Hiram Cowart, Bristow, Creek County; and Dr. Ivan E. Bigler, Ada, Pontotoc County.

Dr. Clifford C. Fulton, Oklahoma City; Dr. Raymond G. Jacobs, Enid; and Dr. Oscar Clarence Newman, Shattuck, were recently accepted into fellowship by the American College of Surgeons at the Philadelphia meeting.

Dr. Rex Bolend, Oklahoma City, has moved from 1010 Medical Arts Building to 1205 Medical Arts Building.

Dr. Ralph McGill, Tulsa, was recently elected President of the Alumni of the University of Oklahoma School of Medicine at a meeting held during the Oklahoma City Clinical Society.

Deaths

Dr. Franklin M. Skaggs, Ardmore, aged 95, died September 19.

Dr. James Buchanan Lightfoot, Miami, aged 74, died October 5 of arthritis following an injury received in a fall.

Dr. Wallace Andrew Aitken, Enid, aged 62, died October 15 of uremia and nephritis.

Dr. Thomas Owen Crawford, Dewey, aged 66, died October 20 of pneumonia.

Dr. William Henry Kendrick, Tulsa, aged 77, died October 22 of hypertension, myocarditis and cerebral infarct.

Dr. C. E. DeGroot, Muskogee, aged 35, died October 26 from a heart attack.

SOUTH CAROLINA

The Medical Society of South Carolina, which embraces Charleston County, celebrated its one hundred and fiftieth anniversary in Charleston December 5 with an historical exhibit, a banquet and a program following the general plan of the one hundredth anniversary. The Society is the fourth oldest medical society in America.

Dr. E. W. Carpenter, Greenville, was recently elected President of the South Carolina Society of Ophthalmology and Otolaryngology.

Dr. James C. Brabham, formerly of Johnsonville, has been made Health Officer of Colleton County with headquarters at Walterboro.

Dr. Charles M. Moore, St. George, formerly Health Officer of Dorchester County, has been appointed Director of the new mobile syphilis clinic in Charleston County.

Dr. John Faulkner Rainey, Greenville, and Miss Caroline Freeman Stringer, Anderson, were married October 28.

Deaths

Dr. Allie Hunter Stowe, Pacolet, aged 58, died September 10 of coronary occlusion.

Dr. J. S. Matthews, Denmark, aged 64, died November 16.

TENNESSEE

The Mid-South Postgraduate Medical Assembly, fifty-fifth annual session, will be held at Memphis February 13, 14, 15 and 16 at the Peabody Hotel. There will be clinical sessions with presentations by twenty-four outstanding clinicians and teachers with round table luncheons. Dr. H. Fay H. Jones, Little Rock, Arkansas, is President; Dr. J. L. Dunavant, Ripley, Tennessee, is President-Elect and Dr. A. F. Cooper, Goodwin Institute Building, Memphis, is Secretary.

Dr. William P. Moore, Jr., Portland, was recently honored by a monument to his memory, made possible by the contributions of his patients and friends in the community where he served for about fifty years.

Dr. Bedford F. Peterson, Knoxville, was recently appointed Superintendent of the Western State Hospital near Bolivar.

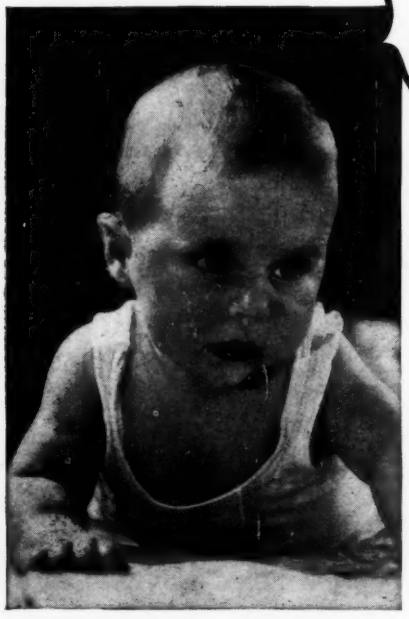
Dr. William D. Martin, Nashville, was recently appointed Superintendent of the Eastern State Hospital, Knoxville.

Dr. John M. Saunders, Nashville, has moved to Children's Bureau, United States Department of Labor, Washington, D. C.

Dr. Thos. Wells, Memphis, has moved to Hutchinson, Kansas.

Dr. John C. McKissick, Paris, has moved to Fort Barrancas, Pensacola, Florida.

Continued on page 46



WON'T YOU HELP ME KEEP MY DINNER DOWN?

TWO FREQUENT CAUSES of vomiting in artificially fed infants are excessive fat intake and inability to cope with large, tough milk curds.

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2. DRYCO modifications form no large, tough curds to retard digestion and induce vomiting. The protein of DRYCO forms a soft, flocculent coagulum in the infant's stomach.

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Children . .	KARO provides 60 calories per tablespoon, added to foods and fluids, when the child fails to gain in weight on an adequate diet or his vitality is depleted during convalescence.
Adolescents .	KARO is invaluable with each meal to help fulfill the enormous energy requirements of adolescence. Accessory meals may be prescribed with advantage and KARO added to foods and fluids.

CORN PRODUCTS REFINING CO.

Invites inquiries from Physicians
... for further information

17 BATTERY PLACE • NEW YORK CITY

Continued from page 44

Dr. H. C. Miles, Western State Hospital, Bolivar, has moved to Kingston.

Dr. L. S. Love, Central State Hospital, Nashville, has moved to Silver Point.

Dr. Henry Stuart Burem, Kingsport, and Miss Irene Marion Gormley, Johnson City, were married October 14.

Dr. John William Didcoct, Shelbyville, and Miss Joy Carrier, Mortons Gap, Kentucky, were married October 7.

Dr. Michael D. Massengill, Jr., and Miss Mary Linda Rector, both of Kingsport, were married October 1.

Dr. John R. Moody and Miss Kathaleen Daniels, both of Erwin, were married October 14.

Deaths

Dr. Thomas Martin Eaton, Viola, aged 84, died October 4 of influenza and senility.

Dr. Hugh Buck Nunn, Ripley, aged 67, died September 6.

Dr. John William Greer, Franklin, aged 69, died October 16 of coronary thrombosis.

Dr. E. L. Ellis, Maryville, aged 63, died October 22.

TEXAS

The International Postgraduate Medical Assembly of Southwest Texas will hold its annual meeting at San Antonio January 23, 24 and 25, the Gunter Hotel being headquarters. There will be clinical sessions with presentations by outstanding clinicians and teachers from leading medical centers in this country and Mexico. Dr. C. C. Cade, San Antonio, is President and Dr. Charles L. McGehee, Medical Arts Building, San Antonio, is Secretary.

Dr. Arthur J. Schwenkenberg, Dallas, was elected President of the Southern Psychiatric Association at the recent annual meeting of the Association in Louisville, Kentucky.

Dr. Charles L. Martin, Dallas, was elected First Vice-President of the American Roentgen Ray Society at the recent meeting of the Society in Chicago.

Dr. John W. E. H. Beck, Austin, was elected President of the Texas Public Health Association at the recent meeting in Galveston.

Dr. John G. Young, Dallas, was recently elected Chief of Staff of the Texas Children's Hospital, a new institution now under construction in that city.

Dr. George W. Wilhite, Gonzales, has been elected Health Officer of Gonzales Count.

Dr. Bruce A. Knickerbocker, Dallas, was recently elected Chief of Staff of the Freeman Memorial Clinic.

Dr. S. D. Fry, Ladonia, was recently appointed Health Officer of that city.

Dr. Houston H. Terry, formerly of Fort Worth, has been appointed Director of the Health Unit of Cooke County.

Dr. A. G. Barsh has moved from Mineral Wells to Stephenville.

Dr. Glenn Bartlett has moved from Harlingen to Falfurrias.

Dr. W. S. Brumage has moved from Lubbock to Austin.

Dr. H. H. McClellan has moved from San Antonio to Dayton, Ohio.

Dr. Richard D. McConchie has moved from Dallas to Wichita Falls.

Dr. Sam J. Muirhead has moved from Dallas to Lubbock.

Dr. Ross Owens has moved from Decatur to Alexandria, Louisiana.

Dr. Claude M. Phillips has moved from Wichita Falls to Austin.

Dr. J. W. Poulter has moved from Alto to Tyler.

Dr. L. E. Standifer has moved from Turkey to Spur.

Deaths

Dr. William Edgar Hardman, Annona, aged 78, died September 14 of diabetes mellitus.

Dr. John Wilson Tappan, El Paso, aged 71, died September 2 of cardiovascular disease.

Dr. Harry S. Robertson, Huntsville, aged 74, died September 21 of cancer.

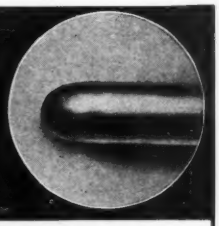
Dr. Edward McCarty Armstrong, Houston, aged 68, died October 7.

Dr. Fred Allen Fuller, Jacksonville, aged 55, died October 7 of chronic hypertension and nephritis.

Dr. Ira A. Griffin, Snyder, aged 55, died October 2 of cirrhosis of the liver.

Continued on page 48

RADON SEEDS



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Serenium* is an orally administered antiseptic azo dye of high purity and uniformity. It exerts an inhibitive effect upon the growth of the organisms in gonorrhea, pyelitis (pyelonephritis), cystitis, and other urinary pyogenic infections and often shortens the duration of the disease. Serenium has a comparatively low toxicity index and an adequate margin of therapeutic safety.

Serenium is most effective when the urine is acid. The acidity of the urine may be quickly and accurately determined with Nitrazine*—a new sensitive indicator.

Serenium is marketed in bottles of 25, 50, and 500 chocolate-coated tablets of 0.1 gram each. Nitrazine is available (with color chart) in paper strips, 100 to a vial, 10 vials to a box, and as an 0.1 per cent solution in dilute alcohol in 4-oz. and 16-oz. bottles.

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CLEVELAND, OHIO.

Continued from page 46

Dr. Harry Obadiah Knight, Galveston, aged 58, died October 5.
Dr. Ralph Edgar Weller, Electra, aged 67, died October 12 of cerebral hemorrhage.
Dr. Harvey Almond Hill, Amarillo, aged 66, died October 25 of carcinoma of the liver.
Dr. William Feland Hickle, Kenedy, aged 67, died September 16 of coronary occlusion.

VIRGINIA

The Medical Society of Northern Virginia has elected the following officers for the coming year: President, Dr. Ralph W. Stoneburner, Edinburg; Vice-President, Dr. J. B. McKee, Winchester; Secretary-Treasurer, Dr. J. E. Harris, Winchester, re-elected.

The Petersburg Medical Society has elected the following officers for the coming year: President, Dr. J. E. Hamner; Vice-Presidents, Dr. Francis Taylor and Dr. Philip Jacobson; Secretary-Treasurer, Dr. Wilbur M. Bowman, re-elected, all of Petersburg.

Dr. C. L. Outland, Richmond, has been elected President of the American School Health Association.

Dr. Porter P. Vinson, Richmond, has been elected First Vice-President of the Alumni Association of the Mayo Foundation.

Dr. R. A. Morison, Abingdon, has been appointed by the Governor as a member of the State Hospital Board to succeed the late Colonel King E. Harman.

Dr. W. R. Bracey, Richmond, was elected a Vice-President of the Association of Seaboard Air Line Railway Surgeons at the annual conference held recently in St. Petersburg, Florida.

Dr. Emmett C. Matthews announces the removal of his offices to 1100 West Franklin Street, Richmond, for the practice of internal medicine.

Dr. Charles H. Dow, formerly of Wytheville, has moved to Chilhowie.

Dr. Leo I. Hallay has moved from McClure to Fort Blackmore.

Dr. Erwin S. Berlin has moved from Rural Retreat to 350 West Main Street, Wytheville.

Dr. G. D. Rackley has moved from Richards to Opelousas, Louisiana.

Continued on page 50

COMFORT - *The Yardstick by which your Cardiac Patient Measures his Progress*

THEOCALCIN (Council Accepted) helps bring comfort to cardiac patients by promptly reducing edema, diminishing dyspnoea and strengthening heart action. Theocalcin is given orally in doses of 1 to 3 tablets, t. i. d.

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● Four years of patient chemical, biologic and clinical investigations have demonstrated the value of a stable preparation of histaminase—provisionally designated "T 360"—in the treatment of allergic conditions produced by an excess of histamine. This biologically standardized preparation is now presented under the name of Torantil. It exerts a specific detoxicating action upon histamine within the human body. For this reason Torantil constitutes a promising contribution to everyday medical practice.

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A favorable, sometimes dramatic, response has been observed in many cases of asthma, vasomotor rhinitis, urticaria, allergic dermatitis, and hypersensitivity to insulin, drugs, serum and physical agents (e.g., cold, heat, light and scratch). Striking results have also been reported in cases of acne. However, Torantil is not a panacea. Some disappointments may be experienced, particularly if the dosage is not individualized.

Booklet discussing in detail the clinical application of Torantil will be sent to physicians on request.

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LOUISVILLE, KENTUCKY

Continued from page 48

Dr. Richard Boxley Bowles, Deltaville, and Miss Elizabeth Billups, Matthews, were married September 30.

Deaths

Dr. Antonio Gentile, Newport News, aged 36, died November 16.

Dr. William Richardson Culbertson, Coeburn, aged 60, died November 6 as a result of injuries received in an automobile accident.

WEST VIRGINIA

The Central West Virginia Medical Society has elected the following officers for the coming year: President, Dr. Homer S. Brown, Sutton; Vice-President, Dr. J. M. Cofer, Bergoo; Secretary-Treasurer, Dr. A. B. Bowyer, Buckhannon.

The Kanawha County Medical Society has elected the following officers for the coming year: President, Dr. Russel Kessel, Charleston; Vice-President, Dr. Vernon L. Peterson, Charleston; Secretary-Treasurer, Dr. William C. Thornhill, Charleston.

The Potomac Valley Medical Society has elected the following officers for the coming year: President, Dr. M. F. Wright, Burlington; Vice-Presidents, Dr. Robert Bess, Piedmont; Dr. J. F. Easton, Romney; Dr. O. V. Brooks, Moorefield; Dr. O. S. Reynolds, Franklin; and Dr. J. B. Grove, Petersburg; Secretary-Treasurer, Dr. E. A. Courrier, Keyser, re-elected.

Dr. Thomas H. Blake, Director of County Health Work, has resigned to enter private practice at St. Albans. Dr. Bruce H. Pollock, Point Pleasant, has been appointed to succeed Dr. Blake.

Deaths

Dr. George Nicholas Waldeck, Huntington, aged 67, died September 24 of myocarditis.

Dr. Rowe R. Bunner, Fort Neal, aged 56, died September 4.

Dr. Thomas K. Shields, Wheeling, aged 74, died October 7 of chronic nephritis, myocarditis and arteriosclerosis.

Dr. George Lounsbery, Huntington, aged 84, died October 13 of pneumonia.

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1. **Give patient 6 oz. of cooled Kalak to sip slowly.**
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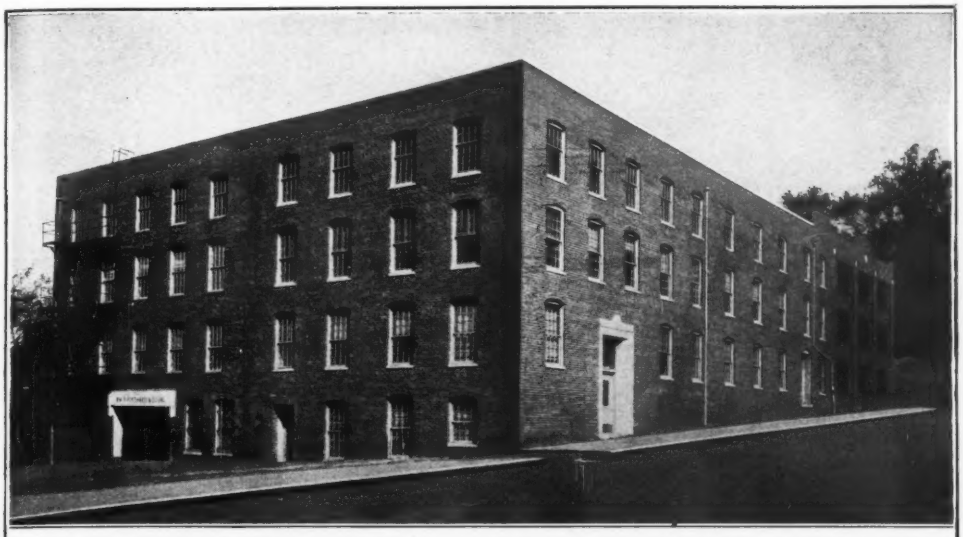

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While Oleum Percomorphum cannot replace the sun, it is a valuable supplement. Unlike the sun, it offers measurable potency in controlled dosage and does not vary from day to day or hour to hour. It is available at any hour, regardless of smoke, season, geography or clothing. A rich source of vitamins A and D, Oleum Percomorphum can be administered in *DROPS*, which makes it an ideal year-round antiricketic. Use the sun, too.

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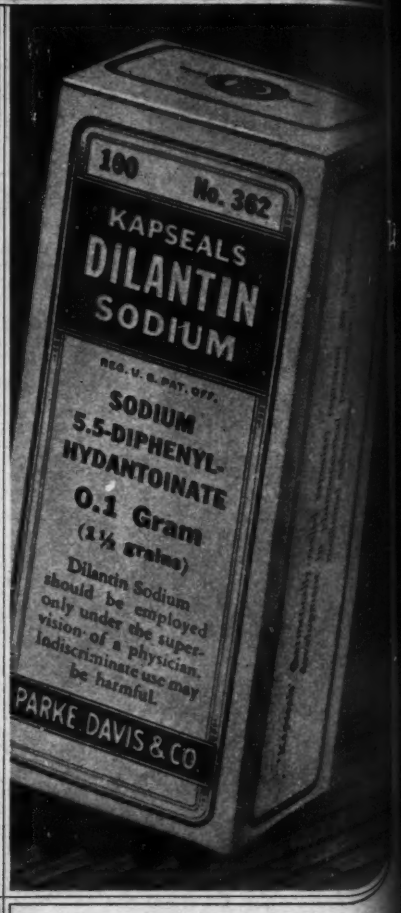

* The name 'Dilantin' Sodium designates the sodium salt of diphenyl hydantoin. 'Dilantin' Sodium was formerly known as 'Dilantin,' a term now designating the basic substance, diphenyl hydantoin. Dilantin Sodium is available as 0.1 Gram (1½-grains) and 0.03 Gram (½-grain) Kapseals, in bottles of 100, 500 and 1000.

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